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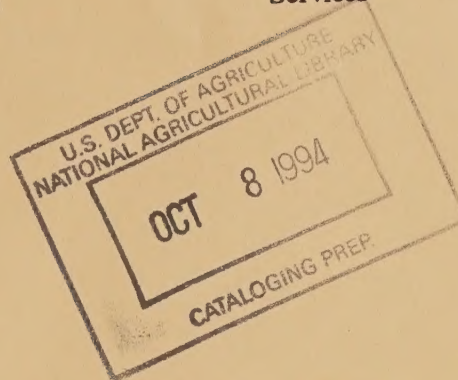
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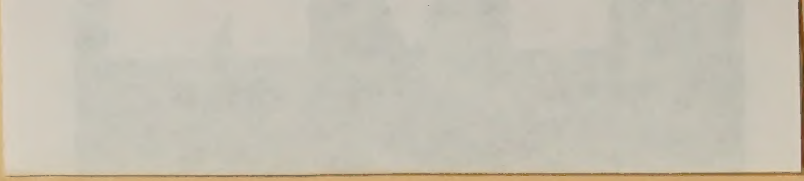


Part I: Beef Cow/Calf Herd Management Practices in the United States

Beef
CHAPA
Cow/Calf Health & Productivity Audit



August 1993



Acknowledgements

This report has been prepared from material received and analyzed by the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS).

The Beef Cow/Calf Health and Productivity Audit was a cooperative effort between State and Federal animal health officials, university researchers, and extension personnel. We want to thank the State and Federal Veterinary Medical Officers (VMO's) who visited the farms and collected the data for their hard work and dedication to the National Animal Health Monitoring System (NAHMS).

The roles of the producer, Area Veterinarian in Charge (AVIC), NAHMS Coordinator, Veterinary Medical Officer (VMO), Animal Health Technician (AHT), and NASS enumerator were critical in providing quality data for this report. All participants are to be commended for their efforts, particularly the producers whose voluntary efforts made the study possible.

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Introduction

As part of the National Animal Health Monitoring System (NAHMS), USDA:APHIS:Veterinary Services conducted a National study of beef production designed to provide both participants and the industry with information on cow/calf health, productivity, and management practices. This report is the first release of National information resulting from the Beef Cow/Calf Health and Productivity Audit (CHAPA).

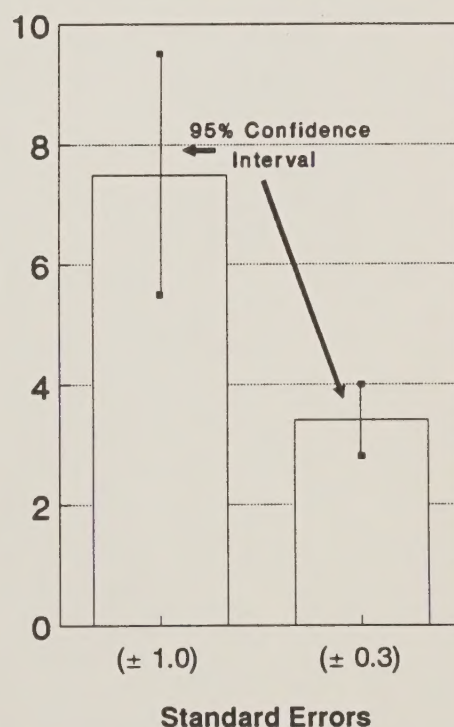
Data for *Part 1: Beef Cow/Calf Herd Management Practices in the United States* were collected from beef producers September 29 through October 9, 1992. The National Agricultural Statistics Service (NASS) collaborated with VS to select a producer sample that was statistically designed to provide inferences about the nation's cow/calf population. NASS telephone interviewers contacted producers in the 48 continental States by computer-assisted telephone interview and asked them a series of questions about management practices and the health of their animals. The 2,539 cow/calf producers that participated represented all U.S. cow/calf operations.

Descriptive tables in this report are divided into two parts:

- The **Sample Profile** contains descriptive results from only the sample of operations that completed the telephone interview.
- **National Population Estimates Based on Data Collected** are population estimates, such as averages and proportions which have been weighted to represent the National cow/calf population. Most of the estimates are provided with a measure of variability called the standard error and denoted by (\pm). Chances are 95 out of 100 that the interval created by the estimate plus or minus two standard errors will contain the true population value. In the example at right, an estimate of 7.5 with a standard error of ± 1.0 results in a range of 5.5 to 9.5 (two times the standard error above and below the estimate).

Subsequent Beef CHAPA activities collected additional data from producers in 18 of the largest cow/calf-producing States. Data were collected by Veterinary Services field staff from January 1993 through January 1994. Interpretive summaries of Beef CHAPA data and tabular results from subsequent data collections will be

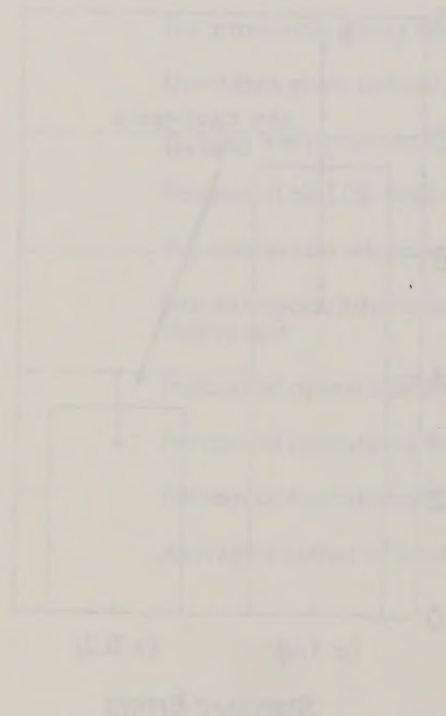
Examples of
95% Confidence Intervals



released as they are completed. A Technical Report containing details on the methodology employed during the Beef Cow/Calf and Productivity Audit is also available.

If you have questions about this report, contact:

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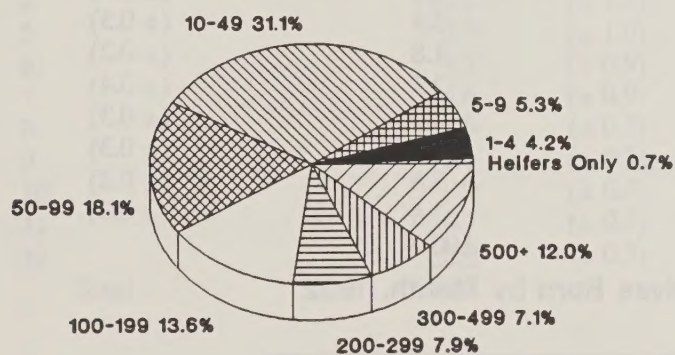


Sample Profile¹

1. Descriptive statistics of responding operations:

a. Beef cow herd size (as of 10/92)	<u># Operations</u>
0 (no cows, but had heifers)	19
1-4	106
5-9	135
10-49	790
50-99	460
100-199	345
200-299	200
300-499	179
500+	<u>305</u>
Total	2,539

Percent of Responding Operations
by Beef Cow Herd Size (n = 2,539)



b. Type of business operation:	<u># Operations</u>
Registered cattle only	96
Commercial cattle only	2,018
Registered and commercial cattle	<u>392</u>
Total	2,506

c. Predominant calving period:	<u># Operations</u>
Spring	1,641
Fall	<u>286</u>
Total	1,927

¹ Actual study sample values; not population estimates.

2. Animals reported in sample operations: # Animals
- Beef cow inventory 646,019
 - Calves born (10/1/91 - 9/30/92) 561,239

National Population Estimates Based on Data Collected

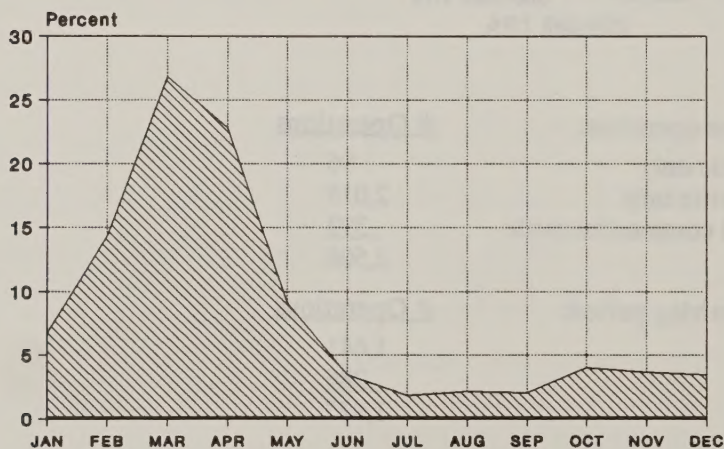
1. Cows calved as a percent of those exposed to a bull or artificially inseminated¹:

<u>Female Class</u>	<u>Percent</u>	<u>Standard Error</u>
Replacement heifers (calving first time)	89.1	(± 1.4)
First calf heifers (calving second time)	93.8	(± 0.7)
Cows	93.1	(± 0.4)
All females	92.4	(± 0.3)

2. Percent of calves born by month during 1992:

<u>Month</u>	<u>Percent</u>	<u>Standard Error</u>
January	6.7	(± 0.5)
February	14.3	(± 0.8)
March	26.8	(± 0.8)
April	22.8	(± 0.8)
May	9.1	(± 0.5)
June	3.4	(± 0.3)
July	1.8	(± 0.2)
August	2.1	(± 0.4)
September	2.0	(± 0.3)
October	4.0	(± 0.3)
November	3.6	(± 0.2)
December	3.4	(± 0.3)
Total	100.0	

Percent of Calves Born by Month, 1992



- 1 The retrospective data collected did not allow calculation of percentages according to National Cattlemen's Association - Integrated Resource Management - Standardized Performance Analysis (NCA-IRM-SPA) guidelines. On-going data collection will allow the calculation of SPA calving percentages and will be available in a subsequent report.

3. Percent of operations with one or more calves born in each of the following months:

<u>Month</u>	<u>Percent</u>	<u>Standard Error</u>
January	23.8	(± 1.5)
February	37.7	(± 1.8)
March	51.3	(± 1.9)
April	49.9	(± 1.9)
May	36.3	(± 1.8)
June	21.2	(± 1.5)
July	14.3	(± 1.3)
August	12.3	(± 1.3)
September	9.8	(± 1.0)
October	20.3	(± 1.5)
November	16.6	(± 1.3)
December	15.8	(± 1.3)

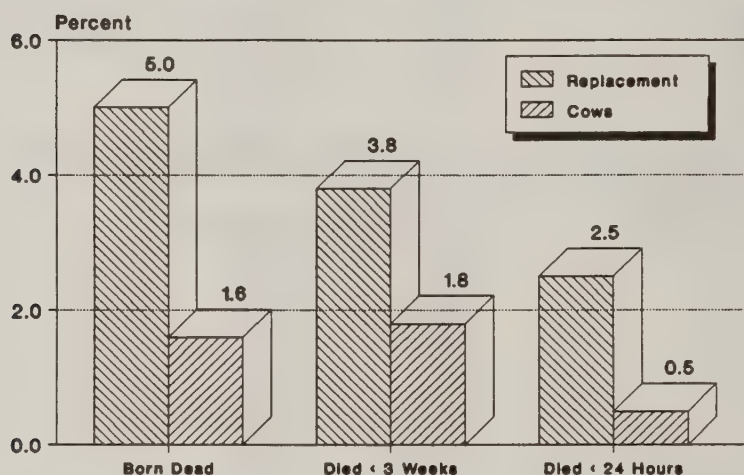
4. Percent of operations with calves born by number of months (for example, 14.4 percent of the operations had calves born in only one month):

<u>Number of Months</u>	<u>Percent</u>	<u>Standard Error</u>
1	14.4	(± 1.6)
2	20.1	(± 1.7)
3	23.9	(± 1.7)
4	16.1	(± 1.5)
5	7.9	(± 1.0)
6	7.5	(± 0.9)
7	4.6	(± 0.9)
8	1.9	(± 0.5)
9	1.1	(± 0.3)
10	0.9	(± 0.3)
11	0.7	(± 0.3)
12	<u>0.9</u>	(± 0.3)
Total	100.0	

5. Calf mortality as a percent of those born:

	<u>All Females</u>		<u>Replacement Heifers</u>		<u>Cows</u>	
	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
a. Born dead	2.1	(± 0.1)	5.0	(± 0.4)	1.6	(± 0.1)
b. Died prior to 24 hours of age	0.8	(± 0.1)	2.5	(± 0.3)	0.5	(± 0.0)
c. Died prior to 3 weeks of age ¹	2.1	(± 0.1)	3.8	(± 0.3)	1.8	(± 0.1)

Calf Mortality As Percent of Calves Born



6. Calf mortality and morbidity of last weaned calf crop:

	<u>Operation Average</u>		<u>Animal Average</u>	
	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
a. Percent of calves:				
Died prior to weaning ²	2.7	(± 0.4)	3.5	(± 0.3)
Died prior to 4 months of age ²	2.1	(± 0.3)	2.3	(± 0.2)
Developed scours prior to weaning	2.9	(± 0.5)	4.7	(± 0.5)
Developed scours prior to 4 months of age	2.5	(± 0.5)	4.2	(± 0.5)
Developed respiratory disease prior to weaning	0.6	(± 0.2)	1.6	(± 0.2)
Developed respiratory disease prior to 4 months of age	0.5	(± 0.2)	1.2	(± 0.2)

7. Facility characteristics

a. Percent of operations with:	<u>Percent</u>	<u>Standard Error</u>
Corrals	79.9	(± 1.6)
Crowding pen	58.0	(± 1.8)
Alley way	58.2	(± 1.7)
Head catch/stanchion (without squeeze)	55.9	(± 1.8)
Squeeze chute	40.1	(± 1.7)
Calf table (tilting squeeze chute for calves)	10.1	(± 0.9)
Weight scale	9.2	(± 1.1)

1 Includes deaths prior to 24 hours.

2 Includes deaths shown in 5a and b above.

8. Type of business operation

a. Percent of operations with:

	<u>Percent</u>	<u>Standard Error</u>
Registered cattle only	4.4	(± 0.9)
Commercial cattle only	81.3	(± 1.5)
Both registered and commercial cattle	<u>14.3</u>	(± 1.3)
Total	100.0	

9. Financial management tools prepared

a. Percent of operations preparing:

	<u>Percent</u>	<u>Standard Error</u>
Income statement (profit/loss statement)	49.4	(± 1.8)
Balance sheet (net worth statement)	33.4	(± 1.7)
Cash flow statement	28.6	(± 1.6)
Cattle or enterprise budget	12.0	(± 1.1)

10. Animal identification: unique number

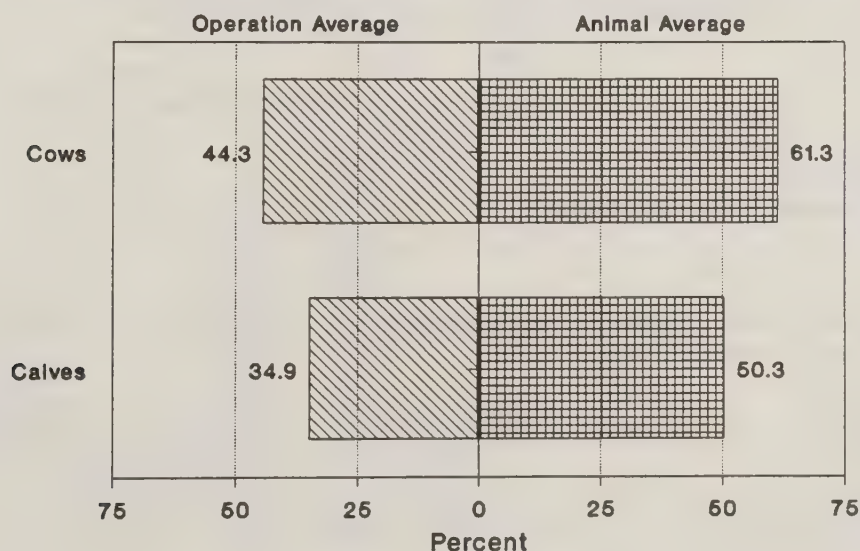
a. Percent of operations tagging or otherwise individually identifying each cow or calf with a unique number:

Cows		Calves	
<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
44.3	(± 1.7)	34.9	(± 1.6)

b. Number of cows/calves on operations that tag or otherwise individually identify each cow or calf with a unique number as a percent of cows/calves on all U.S. beef operations:

Cows		Calves	
<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
61.3	(± 1.5)	50.3	(± 1.7)

Animal Identification: Tagging or Otherwise Identifying Each Cow or Calf



11. Herd identification

- a. Percent of operations using a brand (or some other type of overall herd identification, where each animal has the same identification):

Percent	Standard Error
28.2	(± 1.3)

- b. Number of cows on operations using a brand (or some other type of overall herd identification) as a percent of cows on all beef operations:

58.9	(± 1.4)
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12. Animal identification: hide branding

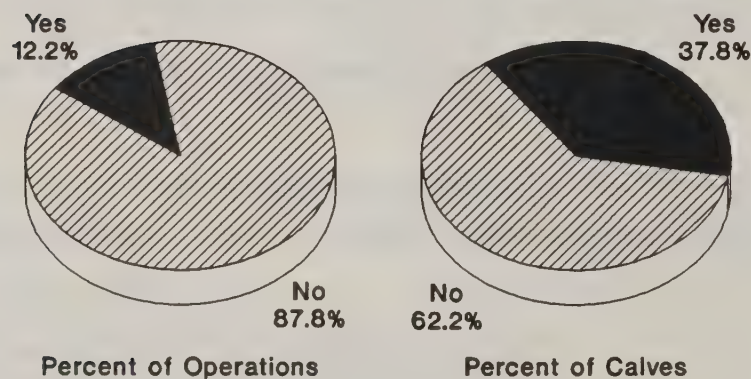
- a. Percent of operations hide branding unweaned calves:

Percent	Standard Error
12.2	(± 0.7)

- b. Number of unweaned calves on operations hide branding as a percent of unweaned calves on all beef operations:

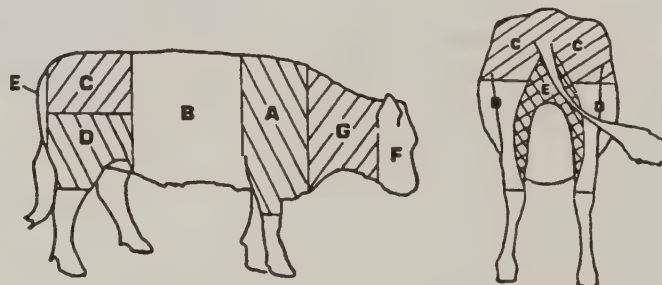
37.8	(± 1.6)
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Hide Branding of Unweaned Calves



Injection and Branding Sites

- A: Shoulder
- B: Side/rib
- C: Upper hip
- D: Lower hip
- E: Rump along tail
- F: Head
- G: Neck



12. Animal identification: hide branding (continued)

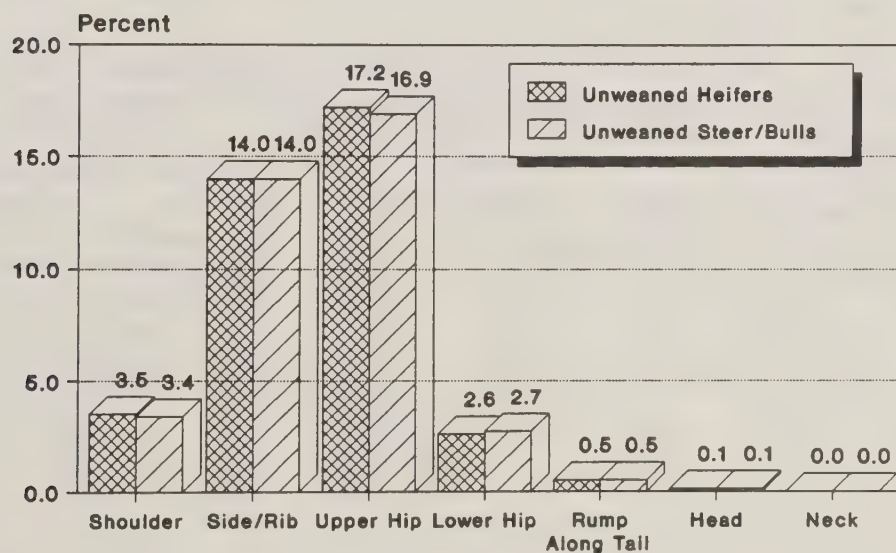
c. For operations hide branding, percent of operations branding by site location and operation average percent of unweaned calves branded:

Site	Operations Branding		Percent of Calves Branded			
	Percent	Stand. Error	Unweaned Heifers	Stand. Error	Unweaned Steers/Bulls	Stand. Error
Shoulder (site A)	9.2	(± 1.7)	93.9	(± 2.5)	92.7	(± 3.0)
Side/rib (site B)	34.5	(± 2.9)	95.8	(± 1.4)	96.8	(± 0.8)
Upper hip (site C)	49.4	(± 3.2)	92.7	(± 2.8)	91.8	(± 2.8)
Lower hip (site D)	8.7	(± 1.6)	93.0	(± 2.7)	90.7	(± 5.9)
Rump along tail (site E)	4.1	(± 2.1)	62.5	(± 27.1)	98.7	(± 1.4)
Head (site F)	0.1	(± 0.1)	100.0	(± 0.0)	100.0	(± 0.0)
Neck (site G)	0.1	(± 0.1)	100.0	(± 0.0)	100.0	(± 0.0)

d. Percent of unweaned U.S. beef calf crop (heifers and steers) hide-branded by site location:

Site	Percent Branded			
	Unweaned Heifers	Standard Error	Unweaned Steers/Bulls	Standard Error
Shoulder (site A)	3.5	(± 0.6)	3.4	(± 0.6)
Side/rib (site B)	14.0	(± 1.2)	14.0	(± 1.2)
Upper hip (site C)	17.2	(± 1.5)	16.9	(± 1.5)
Lower hip (site D)	2.6	(± 0.6)	2.7	(± 0.6)
Rump along tail (site E)	0.5	(± 0.3)	0.5	(± 0.3)
Head (site F)	0.1	(± 0.1)	0.1	(± 0.1)
Neck (site G)	0.0	(± 0.0)	0.0	(± 0.0)

Percent of Unweaned U.S. Beef Calf Crop Hide Branded by Site Location



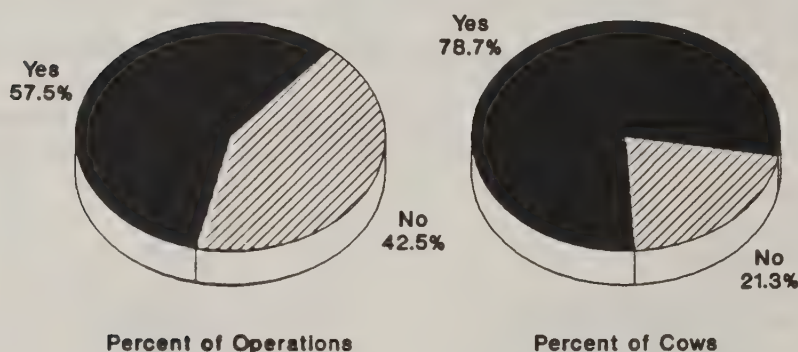
13. Injections (vaccine, antibiotic, injectable dewormer, injectable minerals or vitamins) given to beef cattle in the last 12 months by *operator or any unpaid or hired worker*

- a. Percent of operations where producers give injections:

<u>Percent</u>	<u>Standard Error</u>
57.5	(± 1.8)
- b. Number of cows on operations giving injections as a percent of cows on all beef operations:

<u>Percent</u>	<u>Standard Error</u>
78.7	(± 1.1)

Producer-Delivered Injections to Cattle



c. For operations where producers give injections, percent of operations giving one or more injections by each of the following routes:

<u>Route</u>	<u>Percent</u>	<u>Standard Error</u>
Muscle or intramuscular	78.9	(± 2.0)
Under the skin or subcutaneous	61.9	(± 2.4)
Other	1.1	(± 0.6)

d. For operations where producers give injections, operation average percent of injections given by each route:

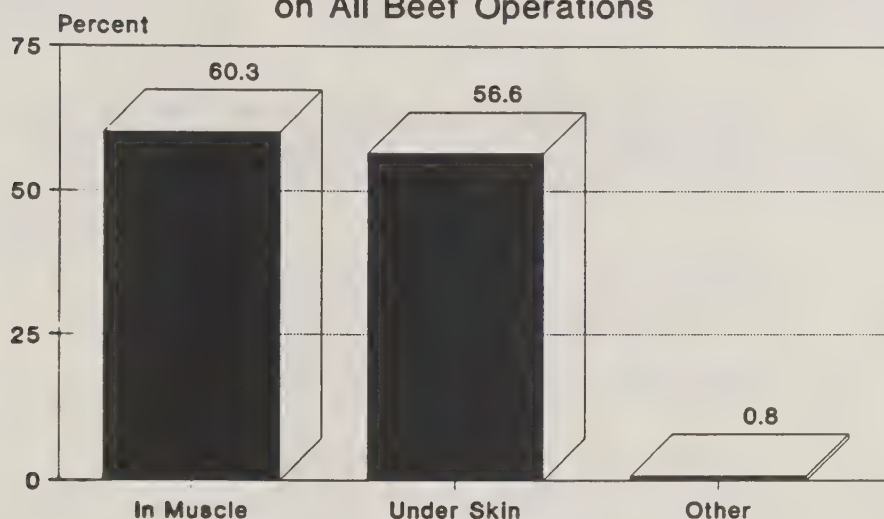
<u>Route</u>	<u>Percent</u>	<u>Standard Error</u>
Muscle or intramuscular	57.7	(± 2.0)
Under the skin or subcutaneous	41.5	(± 2.0)
Other	0.8	(± 0.5)
Total	100.0	

13. Injections given to beef cattle in the last 12 months by *operator or any unpaid or hired worker* (continued)

e. For operations using various injection routes, number of cows as a percent of cows on all beef operations:

<u>Route</u>	<u>Percent</u>	<u>Standard Error</u>
Muscle or intramuscular	60.3	(± 1.5)
Under the skin or subcutaneous	56.6	(± 1.6)
Other	0.8	(± 0.4)

Cows Located on Operations Using Various Injection Routes as a Percent of Cows on All Beef Operations



f. Percent of operations by main location of injection within each route:

<u>Injection Route:</u>	<u>Percent of Operations by Site Within Each Route</u>					
	<u>Muscle/Intramuscular</u>		<u>Skin/Subcutaneous</u>		<u>Other</u>	
<u>Site</u> ¹	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
Shoulder (site A)	11.7	(± 1.6)	16.6	(± 2.4)	54.7	(± 29.5)
Side/rib (site B)	0.2	(± 0.2)	1.8	(± 0.6)	0.3	(± 0.3)
Upper hip (site C)	45.5	(± 2.6)	4.7	(± 1.3)	0.0	(± 0.0)
Lower hip (site D)	13.4	(± 2.0)	2.5	(± 0.8)	0.0	(± 0.0)
Rump along tail (site E)	13.8	(± 1.7)	1.5	(± 0.8)	3.6	(± 3.4)
Head (site F)	0.2	(± 0.1)	0.7	(± 0.3)	6.4	(± 7.2)
Neck (site G)	15.2	(± 1.6)	72.2	(± 2.6)	35.0	(± 26.8)
Total	100.0		100.0		100.0	

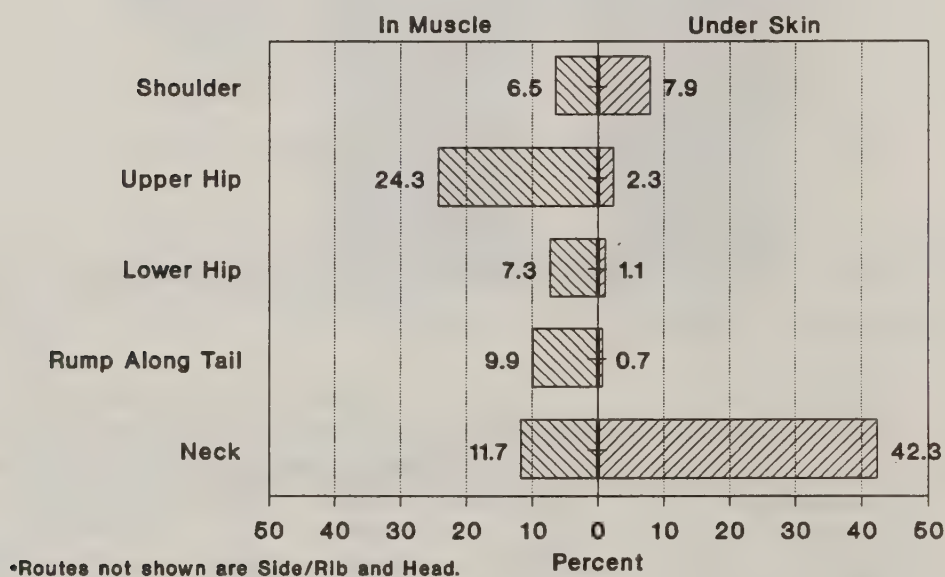
¹ See diagram of sites on page 8.

13. Injections given to beef cattle in the last 12 months by *operator or any unpaid or hired worker*
(continued)

g. Percent of all U.S. beef cows in herds by preferred injection site by route:

Injection Route: Site ¹	Muscle/Intramuscular		Percent of All Cows Skin/Subcutaneous		Other	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
Shoulder (site A)	6.5	(± 0.8)	7.9	(± 0.8)	0.0	(± 0.0)
Side/rib (site B)	0.1	(± 0.1)	2.0	(± 0.6)	0.0	(± 0.0)
Upper hip (site C)	24.3	(± 1.5)	2.3	(± 0.5)	0.0	(± 0.0)
Lower hip (site D)	7.3	(± 0.8)	1.1	(± 0.3)	0.0	(± 0.0)
Rump along tail (site E)	9.9	(± 1.3)	0.7	(± 0.3)	0.1	(± 0.1)
Head (site F)	0.2	(± 0.1)	0.5	(± 0.2)	0.0	(± 0.0)
Neck (site G)	11.7	(± 1.1)	42.3	(± 1.7)	0.1	(± 0.0)

Percent of All Cows by Main Producer-Delivered Injection Location and Route*



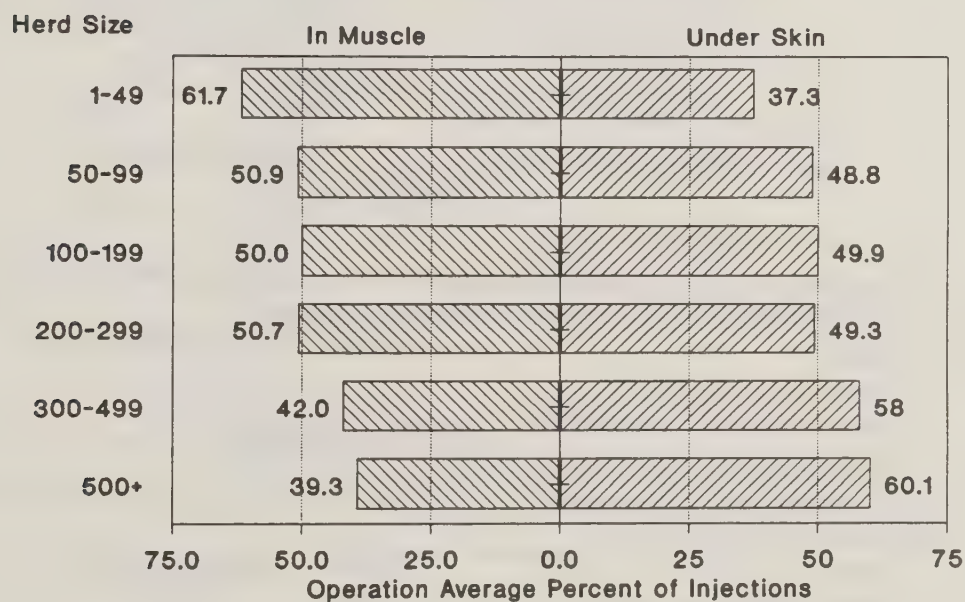
1 See diagram of sites on page 8.

13. Injections given to beef cattle in the last 12 months by *operator or any unpaid or hired worker*
(continued)

h. For producers giving any injections, operation average percent of injections by route and herd size:

<u>Beef Cow Herd Size</u>	<u>Muscle/Intramuscular</u>		<u>Percent of Injections</u> <u>Skin/Subcutaneous</u>		<u>Other</u>	
	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
1-49	61.7	(± 2.7)	37.3	(± 2.6)	1.1	(± 0.8)
50-99	50.9	(± 3.1)	48.8	(± 3.0)	0.3	(± 0.2)
100-199	50.0	(± 3.3)	49.9	(± 3.3)	0.0	(± 0.0)
200-299	50.7	(± 2.9)	49.3	(± 2.9)	0.0	(± 0.0)
300-499	42.0	(± 4.3)	58.0	(± 4.3)	0.0	(± 0.0)
500+	39.3	(± 4.0)	60.1	(± 4.2)	0.7	(± 0.6)
All	57.7	(± 2.0)	41.5	(± 2.0)	0.8	(± 0.5)

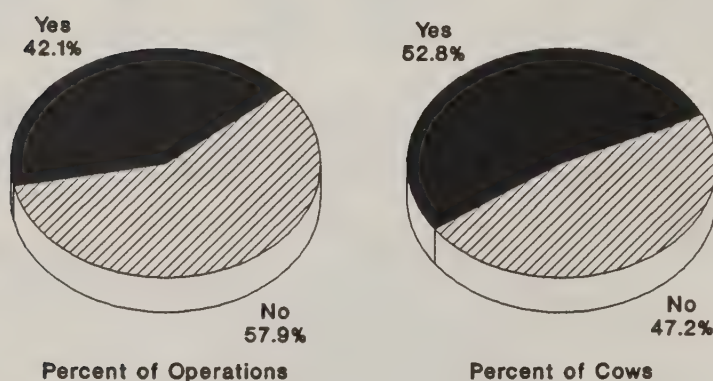
For Producers Giving Injections Percent
of Injections Given by Route & Herd Size



14. Injections (vaccine, antibiotics, injectable dewormer, injectable minerals or vitamins) given to beef cattle on this farm in the last 12 months by a *veterinarian*

- a. Percent of operations where veterinarians give injections:
- | Percent | Standard Error |
|---------|----------------|
| 42.1 | (± 1.7) |
- b. Number of cows on operations giving injections as a percent of cows on all beef operations:
- | Percent | Standard Error |
|---------|----------------|
| 52.8 | (± 1.7) |

Injections Given to Beef Cattle in Last 12 Months by a Veterinarian*



*As identified by producers.

- c. For operations where injections are given by a veterinarian, percent of operations where one or more injections are given by each of the following routes:

Route	Percent	Standard Error
Muscle or intramuscular	72.2	(± 3.0)
Under the skin or subcutaneous	57.6	(± 3.1)
Other	0.4	(± 0.2)

- d. For operations where injections are given by a veterinarian, operation average percent of injections given by route:

Route	Percent	Standard Error
Muscle or intramuscular	57.8	(± 2.8)
Under the skin or subcutaneous	41.9	(± 2.8)
Other	0.3	(± 0.2)
Total	100.0	

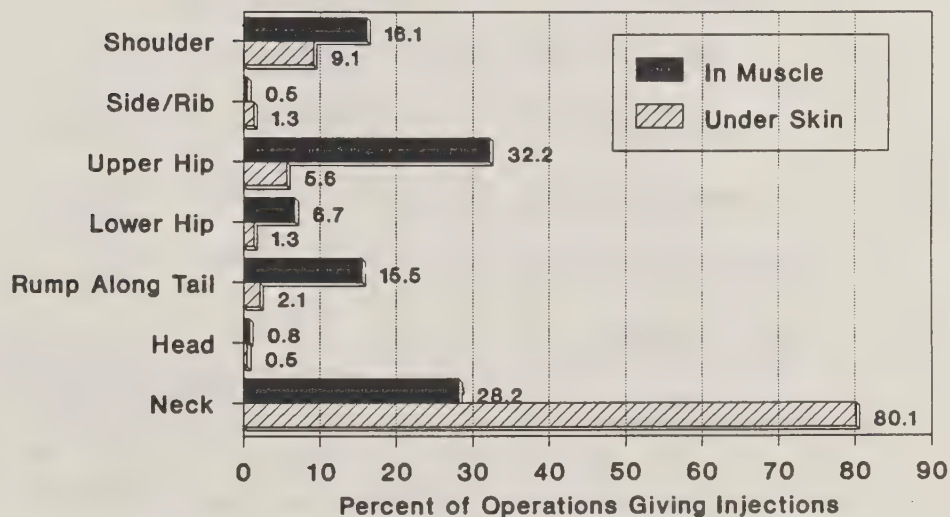
- e. For operations using various injection routes, number of cows as a percent of cows on all beef operations:

Route	Percent	Standard Error
Muscle or intramuscular	26.5	(± 1.6)
Under the skin or subcutaneous	28.9	(± 1.5)
Other	0.2	(± 0.1)

14. Injections given to beef cattle on this farm in the last 12 months by a *veterinarian* (continued)

f. Percent of operations by main location of injection within each route:

Injection Route: Site ¹	Percent of Operations by Site Within Each Route					
	Muscle/Intramuscular		Skin/Subcutaneous		Other	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
Shoulder (site A)	16.1	(± 2.5)	9.1	(± 3.4)	0.0	(± 0.0)
Side/rib (site B)	0.5	(± 0.3)	1.3	(± 0.4)	0.0	(± 0.0)
Upper hip (site C)	32.2	(± 3.3)	5.6	(± 2.3)	0.0	(± 0.0)
Lower hip (site D)	6.7	(± 1.7)	1.3	(± 1.2)	0.0	(± 0.0)
Rump along tail (site E)	15.5	(± 2.7)	2.1	(± 1.0)	3.3	(± 3.8)
Head (site F)	0.8	(± 0.5)	0.5	(± 0.5)	0.0	(± 0.0)
Neck (site G)	28.2	(± 3.2)	80.1	(± 3.9)	96.7	(± 3.8)
Total	100.0		100.0		100.0	

Preferred Sites by Route for
Veterinarian-Delivered Injections*

*As identified by producers.

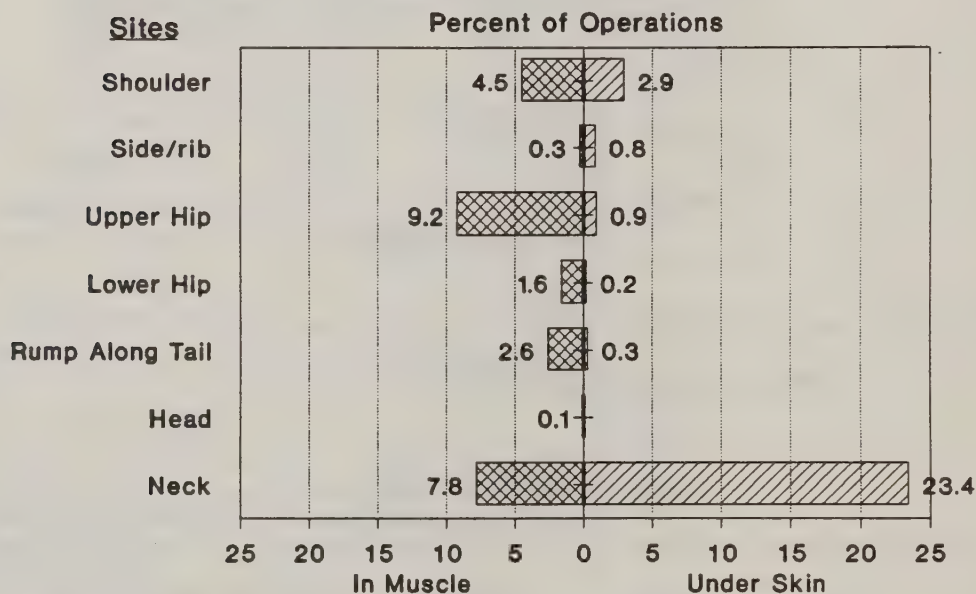
1 See diagram of sites on page 8.

14. Injections given to beef cattle on this farm in the last 12 months by a *veterinarian* (continued)

g. Percent of all U.S. beef cows in herds by preferred injection site by route:

Injection Route: Site ¹	Percent of Cows by Route					
	Muscle/Intramuscular		Skin/Subcutaneous		Other	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
Shoulder (site A)	4.5	(± 0.9)	2.9	(± 0.5)	0.0	(± 0.0)
Side/rib (site B)	0.3	(± 0.2)	0.8	(± 0.3)	0.0	(± 0.0)
Upper hip (site C)	9.2	(± 1.2)	0.9	(± 0.3)	0.0	(± 0.0)
Lower hip (site D)	1.6	(± 0.3)	0.2	(± 0.1)	0.0	(± 0.0)
Rump along tail (site E)	2.6	(± 0.4)	0.3	(± 0.1)	0.0	(± 0.0)
Head (site F)	0.1	(± 0.0)	0.0	(± 0.0)	0.0	(± 0.0)
Neck (site G)	7.8	(± 0.9)	23.4	(± 1.4)	0.2	(± 0.1)

Percent of All U.S. Beef Cows by Main Location of Injection by Veterinarians*



*As identified by producers.

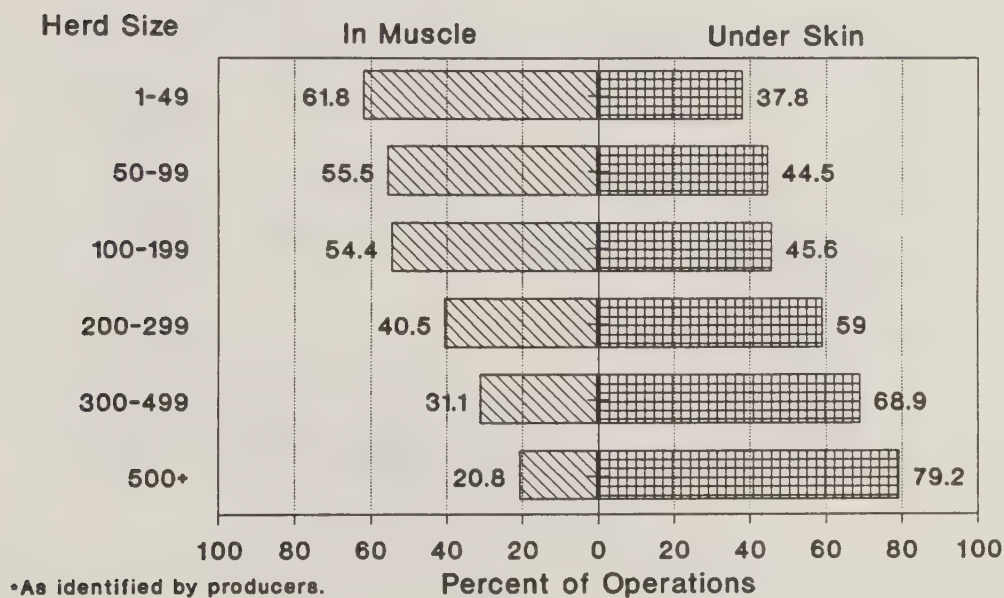
1 See diagram of sites on page 8.

14. Injections given to beef cattle on this farm in the last 12 months by a *veterinarian* (continued)

h. For operations with veterinarians giving any injections, operation average percent of injections by route and herd size:

Beef Cow Herd Size	Percent of Injections by Route					
	Muscle/Intramuscular		Skin/Subcutaneous		Other	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
1-49	61.8	(± 3.7)	37.8	(± 3.7)	0.4	(± 0.3)
50-99	55.5	(± 4.9)	44.5	(± 4.9)	0.1	(± 0.1)
100-199	54.4	(± 5.2)	45.6	(± 5.2)	0.0	(± 0.0)
200-299	40.5	(± 4.7)	59.0	(± 4.7)	0.5	(± 0.4)
300-499	31.1	(± 5.3)	68.9	(± 5.3)	0.0	(± 0.0)
500+	20.8	(± 3.8)	79.2	(± 3.8)	0.0	(± 0.0)
All	57.8	(± 2.8)	41.9	(± 2.8)	0.3	(± 0.2)

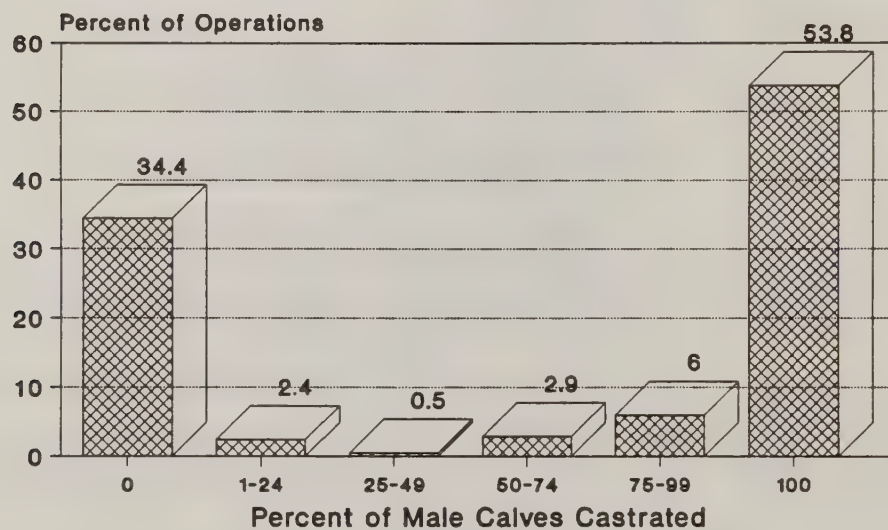
For Operations Where Veterinarians Give Injections % Given by Route & Herd Size*



15. Castration practices

	<u>Percent</u>	<u>Standard Error</u>
a. Operation average percent of male calves castrated before sale:	60.1	(± 1.6)
b. Percent of male calves castrated before sale:	80.8	(± 1.1)
c. Percent of operations by interval of reported percent of male calves castrated before sale ¹ :		
<u>Reported</u>	<u>Percent of</u>	<u>Standard</u>
<u>Percent Castrated</u>	<u>Operations</u>	<u>Error</u>
0	34.4	(± 1.7)
1-24	2.4	(± 0.5)
25-49	0.5	(± 0.2)
50-74	2.9	(± 0.6)
75-99	6.0	(± 0.7)
100	53.8	(± 1.7)
Total	100.0	

**% of Operations by Interval of Reported
Percent of Male Calves Castrated Before Sale**



	<u>Days</u>	<u>Standard Error</u>
d. Operation average age calves are castrated ¹ :	75.3	(± 3.1)
e. Average age calves are castrated ¹ :	71.1	(± 2.8)

¹ 15 d, e, f, and g are comparable items.

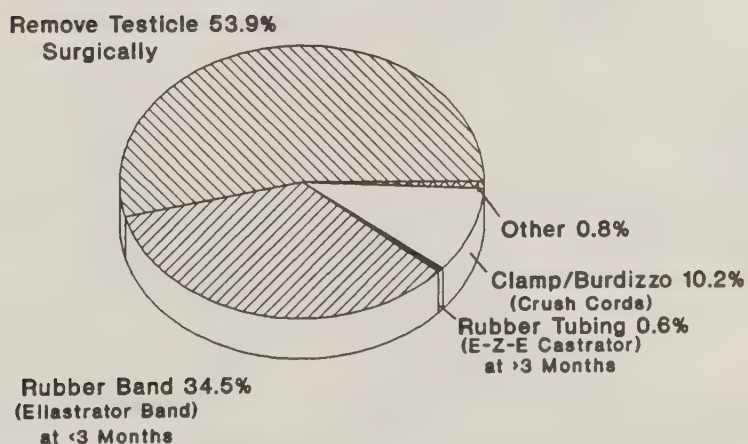
15. Castration practices (continued)

f. Percent of operations by reported average age of calves at castration¹:

<u>Age in Days</u>	<u>Percent</u>	<u>Standard Error</u>
1-30	38.4	(± 2.1)
31-61	22.0	(± 1.7)
62-92	13.4	(± 1.4)
93-122	8.3	(± 1.2)
123-153	4.6	(± 0.9)
154-183	7.4	(± 1.1)
184-214	2.9	(± 0.6)
215+	<u>3.0</u>	(± 0.8)
Total	100.0	

g. Percent of operations by primary method of castration¹:

<u>Primary Method</u>	<u>Percent</u>	<u>Standard Error</u>
Remove testicle surgically	53.9	(± 2.1)
Rubber band (Elastrator band) at less than 3 months of age	34.5	(± 2.1)
Clamp/Burdizzo (crush cords)	10.2	(± 1.4)
Rubber tubing (E-Z-E castrator) at more than 3 months of age	0.6	(± 0.4)
Other	<u>0.8</u>	(± 0.5)
Total	100.0	

Percent of Operations by Primary
Method of Castration

1 15 d, e, f, and g are comparable items.

16. Dehorning practices

a. Horned calves:	<u>Percent</u>	<u>Standard Error</u>
i. Operation average percent of calf crop horned:	19.0	(± 1.1)
ii. Percent of calves horned:	29.3	(± 1.2)
iii. Percent of operations with horned calves:	45.3	(± 1.8)

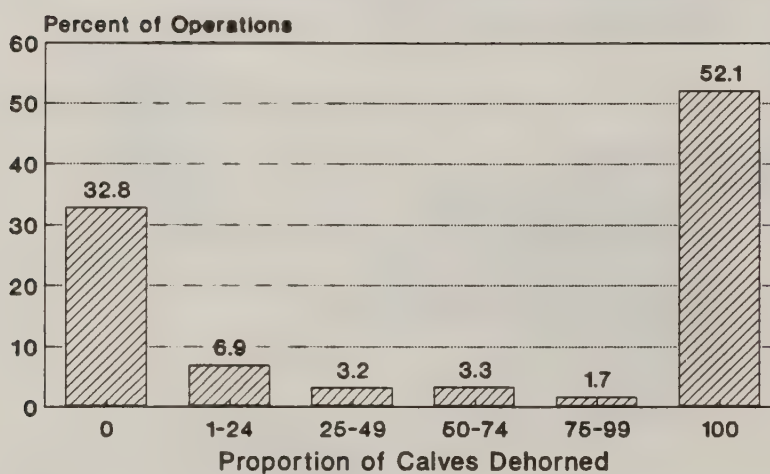
b. Horned calves dehorned:

i. Operation average percent of calf crop horned on operations that dehorn:	41.5	(± 2.2)
ii. Percent of nonpolled calf crop dehorned:	71.2	(± 3.0)
iii. Percent of horned calves on operations that dehorn:	80.3	(± 3.2)

iv. Percent of operations dehorning by proportion of calves dehorned:

<u>Reported Percent of Calves Dehorned</u>	<u>Percent</u>	<u>Standard Error</u>
0	32.8	(± 2.4)
1-24	6.9	(± 1.2)
25-49	3.2	(± 0.7)
50-74	3.3	(± 0.8)
75-99	1.7	(± 0.4)
100	52.1	(± 2.5)
Total	100.0	

Percent of Operations Dehorning by
Proportion of Calves Dehorned

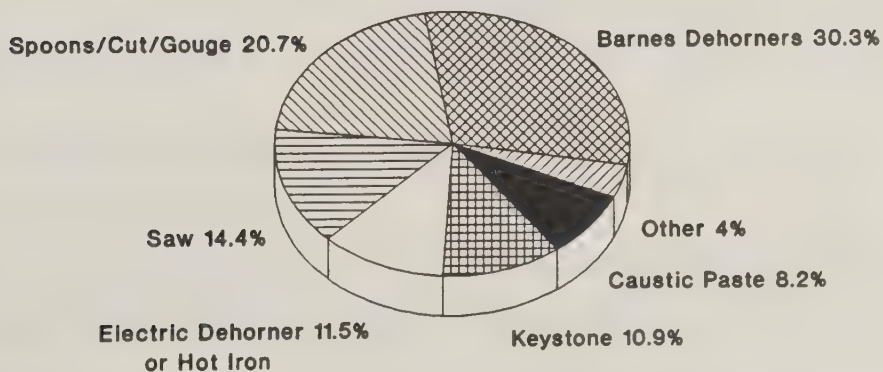


c. Practices specific to operations that dehorn:	<u>Percent</u>	<u>Standard Error</u>
i. Operation average percent of horned calves that are dehorned:	85.7	(± 1.8)
ii. Percent of horned calves dehorned on operations that dehorn:	88.3	(± 1.5)

16. Dehorning practices (continued)

	<u>Days</u>	<u>Standard Error</u>
iii. Operation average age calves are dehorned:	158.5	(± 6.6)
iv. Average age calves are dehorned:	104.0	(± 5.0)
v. Percent of operations dehorning at various ages:		
<u>Age in Days</u>	<u>Percent</u>	<u>Standard Error</u>
1-30	10.6	(± 1.5)
31-61	11.7	(± 1.5)
62-92	13.2	(± 1.7)
93-122	8.9	(± 1.8)
123-153	9.1	(± 2.2)
154-183	16.2	(± 2.2)
184-214	11.8	(± 2.4)
215+	<u>18.5</u>	(± 2.6)
Total	100.0	
vi. Percent of operations by primary method of dehorning:		
<u>Methods</u>	<u>Percent</u>	<u>Standard Error</u>
Caustic paste	8.2	(± 1.3)
Spoons, cut, gouge	20.7	(± 2.2)
Barnes dehorner	30.3	(± 2.6)
Keystone (guillotine)	10.9	(± 2.8)
Saw	14.4	(± 3.0)
Electric dehorner or hot iron	11.5	(± 1.4)
Other	<u>4.0</u>	(± 1.3)
Total	100.0	

Percent of Operations That Dehorn
by Primary Method of Dehorning

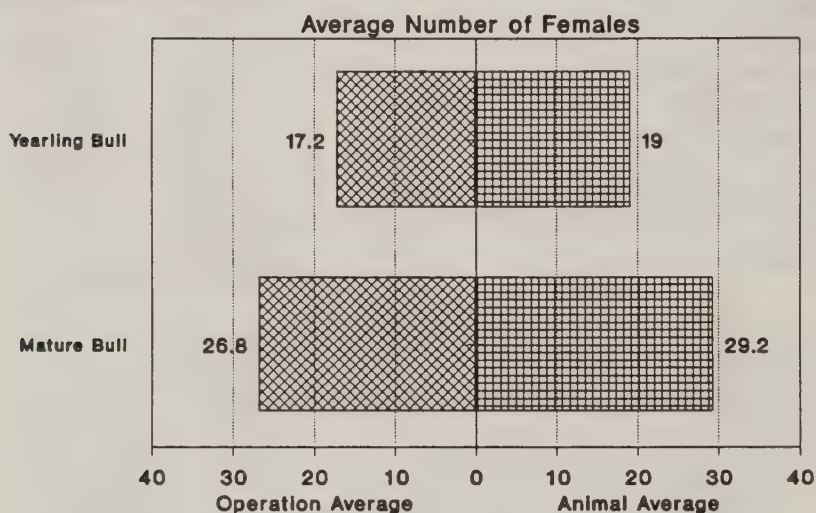


17. Weaning age and weight (a and b are comparable items)

a. Weaning age:	<u>Days</u>	<u>Standard Error</u>
Operation average weaning age	205.5	(± 1.8)
Calf average weaning age	214.4	(± 1.4)
b. Weaning weight:	<u>Pounds</u>	<u>Standard Error</u>
Operation average weaning weight	474.0	(± 3.7)
Calf average weaning weight	504.2	(± 2.5)

18. Females mated or serviced per bull:	Yearling Bull		Mature Bull	
	<u># Females</u>	<u>Stan. Error</u>	<u># Females</u>	<u>Stan. Error</u>
Operation average	17.2	(± 0.3)	26.8	(± 0.4)
Females per bull	19.0	(± 0.3)	29.2	(± 0.3)

**Average Number of Females
Mated or Serviced per Bull**



National Animal Health Monitoring System



USDA:APHIS:VS
National Animal Health Monitoring System
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(303) 490-7800

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National Beef Study, 1993



- ☐ Beef Cow/Calf Herd Practices in the United States (24-page tabular summary of data collected on cow/calf health, productivity, and management practices from producers in 48 States also contains graphic presentations of some study results)
- ☐ Additional results of the Beef CHAPA*
- ☐ Producers and Beef Cow/Calf Health and Productivity Audit (CHAPA) (brochure containing a general overview of the 1993 study of beef cow/calf health and productivity)
- ☐ Information for the Veterinarian (description of the Beef CHAPA for private practitioners)

National Dairy Heifer Evaluation Project, 1991-1992



- ☐ Dairy Herd Management Practices Focusing on Preweaned Heifers (36-page tabular summary of data on preweaned heifer management collected during the National Dairy Heifer Evaluation Project)
- ☐ Fact Sheets (discussions and graphic presentations of the dairy project results)
Topics may include, but are not limited to: colostrum management, record keeping & information sources, calf feeds & weaning practices, housing, contract heifer raising, biosecurity measures, maternity hygiene, vaccination practices, nutritional supplements & feed additives, transfer of maternal immunity to calves, and Cryptosporidium.
- ☐ NDHEP Data Collection Materials (examples of the tools used during data collection)

Emerging Issues



- ☐ Cryptosporidium parvum Outbreak (fact sheet)
- ☐ Escherichia coli 1057:H7 (fact sheet)
- ☐ Assessment of Risk Factors for *Mycobacterium bovis* in the United States (150-page report)

Bovine Spongiform Encephalopathy (BSE) Risk Assessment

- ☐ Bovine Spongiform Encephalopathy: Implications for the United States (25-page report containing updates on BSE in Great Britain, risk factors and surveillance in the U.S., and a quantitative assessment of the possible role of nonambulatory cattle in transmissible spongiform encephalopathy in the U.S.)
- ☐ Quantitative Risk Assessment of BSE in the United States (15-page report)
- ☐ Qualitative Analysis of Risk Assessment in the United States (25-page report)

Continued on other side...

Emerging Issues (BSE, continued)

- ☐ **United States Rendering and Feed-Manufacturing Industries: Evaluation of Practices with Risk Potential for Bovine Spongiform Encephalopathy** (22-page report)
- ☐ **Technical Report on BSE**, February 1991, USDA:APHIS (fact sheet summarizing the quantitative and qualitative risk analysis of BSE in the United States)
- ☐ **BSE Video** (video contains four segments: two short videos of dairy cows showing clinical signs; a BBC television show, "Horizon;" and a film developed by the British Ministry of Agriculture. For check-out only.)
- ☐ **BSE: Sample Overview Presentation** (slide set and script providing an overview of the BSE investigation in Great Britain and a risk assessment of BSE in the U.S. For check-out only.)

Quarterly Reports



Animal Health Insight (current information on the epidemiology and economics of animal health events from the USDA:APHIS:VS)

- ☐ I would like to receive a copy of the **Animal Health Insight**. (Note: After reviewing the Animal Health Insight, you may request to receive this report on a quarterly basis.)

DxMonitor Animal Health Report (trends of confirmed disease diagnoses and animal health data collected from veterinary diagnostic laboratories)

- ☐ I would like to receive a copy of the **DxMonitor**. (Note: After reviewing the DxMonitor, you may request to receive this report on a quarterly basis.)
- ☐ **Introduction to the Veterinary Diagnostic Laboratory Reporting System** (informational brochure about the VDLRS)
- ☐ **Report of the 1991 DxMonitor Committee Meeting** (report of a 1991 meeting of industry representatives convened to provide oversight and direct input for the growth and development of the VDLRS)

National Swine Survey, 1989-1990



- ☐ **Morbidity/Mortality and Health Management of Swine in the United States** (40-page tabular summary of the data collected during the swine project)
- ☐ **Fact Sheets** (discussions and graphic presentations of the results of the swine project)
Topics covered: Highlights of the survey, biosecurity measures, preweaning morbidity & mortality, sow productivity, total confinement and farrowing facilities, preventive practices, consultants, and water testing.
- ☐ **NSS: Sample Presentation of Results** (slide set and script providing an overview of the National Swine Survey results. For check-out only.)
- ☐ **Swine Slaughter Surveillance Program** (fact sheet presenting results of slaughter checks from a Minnesota/NAHMS feasibility study)

Organizational Information



- ☐ **NAHMS Bibliography** (list of published technical articles using NAHMS data, 1983 - present)
- ☐ **NAHMS Strategic Plan** (1989 report containing a description of the external and internal environment in which NAHMS operates; the NAHMS mission statement, objectives, and strategies)
- ☐ **NAHMS Management Review Group Report** (report of a 1992 meeting of USDA representatives convened to provide oversight and direct input for the growth and development of the NAHMS program)

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PART II: Beef Cow/Calf Reproductive & Nutritional Management Practices

AND

PART III: Beef Cow/Calf Health & Health Management



Beef

CHAPA

Cow/Calf Health & Productivity Audit



January 1994

Acknowledgements

This report has been prepared from material received and analyzed by the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS).

The Beef Cow/Calf Health and Productivity Audit was a cooperative effort between State and Federal animal health officials, university researchers, and extension personnel. We want to thank the State and Federal Veterinary Medical Officers (VMO's) who visited the farms and collected the data for their hard work and dedication to the National Animal Health Monitoring System (NAHMS).

The roles of the producer, Area Veterinarian in Charge (AVIC), NAHMS Coordinator, Veterinary Medical Officer (VMO), Animal Health Technician (AHT), and enumerators from the National Agricultural Statistics Service (NASS) were critical in providing quality data for this report. All participants are to be commended for their efforts, particularly the producers whose voluntary efforts made the study possible.



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Introduction

As part of the National Animal Health Monitoring System (NAHMS), USDA:APHIS: Veterinary Services conducted a National study of beef production designed to provide both participants and the industry with information on animal health, productivity, and management practices of cow/calf producers. The National Agricultural Statistics Service (NASS) collaborated with USDA:APHIS:VS to select a producer sample that was statistically designed to provide inferences about the nation's cow/calf population.

NASS enumerators contacted producers in the 48 continental States by computer-assisted telephone interview and asked them a series of questions about management practices and the health of their animals. The 3,397 cow/calf producers participating represented all U.S. cow/calf operations. Results of NASS telephone contacts for the Beef Cow/Calf Health and Productivity Audit (CHAPA) were released in August 1993 as *Part I: Beef Cow/Calf Herd Management Practices in the United States*.

NASS enumerators collected data for Part II of this report, *Nutritional & Reproductive Management Practices*, from November 9 through December 4, 1992, by personal interview from a subset of producers responding to the first NASS contact. Producers participating in this portion of the study were required to have five or more beef cows (or beef replacement heifers) and 50 percent or more of their 1992 calf crop born between January 1 and June 30, 1992. Data collection was limited to 18 of the largest cow/calf-producing States (shown on the next page). The 18 States with producers participating represented 70 percent of the U.S. beef cow inventory.

The target population represents:

- 49 percent of beef cows in the U.S.
- 42 percent of beef operations in the U.S.
- 71 percent of beef cows on predominantly spring calving beef operations in the U.S. with 5 or more beef cows (or replacement heifers).
- 75 percent of predominantly spring calving beef operations in the U.S. with 5 or more beef cows (or replacement heifers).

Part I: Beef Cow/Calf Herd Management Practices in the U.S.

- States surveyed: 48
- Target population: all U.S. beef cow/calf producers
- Participating producers: 3,397
- Data collection period: 9/29-10/9/92

Part II: Beef Cow/Calf Reproductive & Nutritional Management Practices

- States surveyed: 18
- Target population: beef cow/calf producers with 5 or more beef cows and with 50 percent or more of 1992 calves born from January through June
- Participating producers: 799
- Data collection period: 11/9-12/4/92

Part III: Beef Cow/Calf Health & Health Management

- States surveyed: 18
 - Target population: beef cow/calf producers with 5 or more beef cows and with 50 percent or more of 1992 calves born from January through June
 - Participating producers: 540
 - Data collection period: 1/4-2/28/93
-

Data for *Part III: Beef Cow/Calf Health & Health Management* were collected from 540 producers from the subset described above. Federal and State Veterinary Officers (VMO's) conducted personal interviews with the producers between January 4 and February 28, 1993.

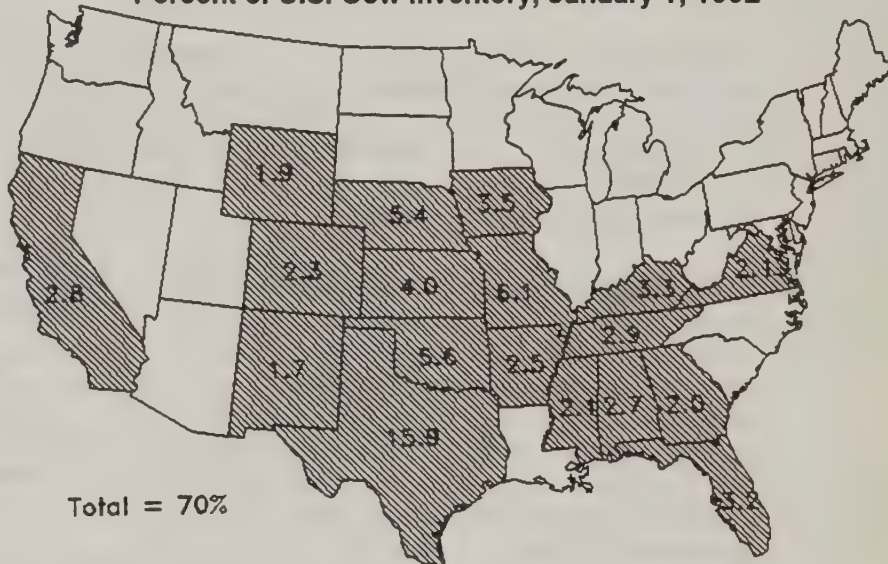
Descriptive tables in this report are divided into two parts:

- The **Participant Profile** contains descriptive results from only the subset of operations that completed the respective personal interviews for Parts II and III.
- **Population Estimates Based on Data Collected** are population estimates, such as averages and proportions which have been weighted to represent the cow/calf population. Most of the estimates are provided with a measure of variability called the standard error and denoted by (\pm). Chances are 95 out of 100 that the interval created by the estimate plus or minus two standard errors will contain the true population value. In the example at right, an estimate of 7.5 with a standard error of ± 1.0 results in a range of 5.5 to 9.5 (two times the standard error above and below the estimate).

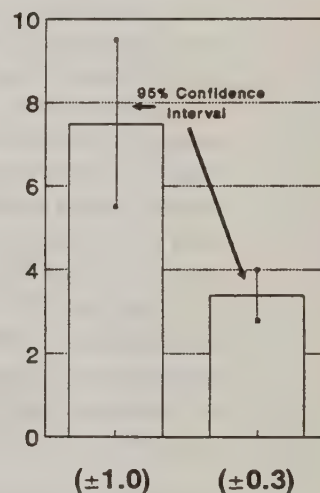
Subsequent Beef CHAPA activities collected additional data from 540 producers in the 18 States. Additional Beef Cow/Calf Health and Productivity Audit (CHAPA) results will be released as they are completed. If you have questions about this report contact NAHMS at:

Centers for Epidemiology and Animal Health
 USDA:APHIS:VS, Attn. NAHMS
 555 South Howes, Suite 200
 Fort Collins, Colorado 80521
 (303) 490-7800

States Participating in Data Collection for this Report and Percent of U.S. Cow Inventory, January 1, 1992



Examples of 95% Confidence Intervals

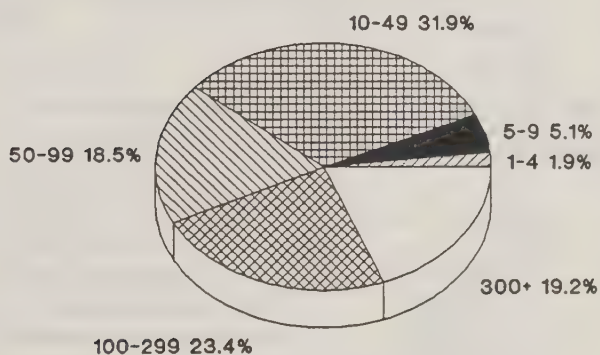


Part II: A. Participant Profile¹

1. Descriptive statistics of responding operations

a. Beef cow herd size:	<u>Number of Operations</u>
1-4	15
5-9	41
10-49	255
50-99	148
100-299	187
300+	<u>153</u>
Total	799

Percent of Responding Operations
by Beef Cow Herd Size
18 States (n = 799)



b. Breed make-up - majority of cows:	<u>Number of Operations</u>
Purebred or straightbred (only one breed)	142
Crossbred (two breeds)	359
Crossbred (three or more breeds)	<u>298</u>
Total	799

c. Number of head reported:	<u>Number of Head</u>
Cows	245,273
Calf crop	224,315
Cows and replacement heifers	287,184

¹ Actual sample values; not population estimates.

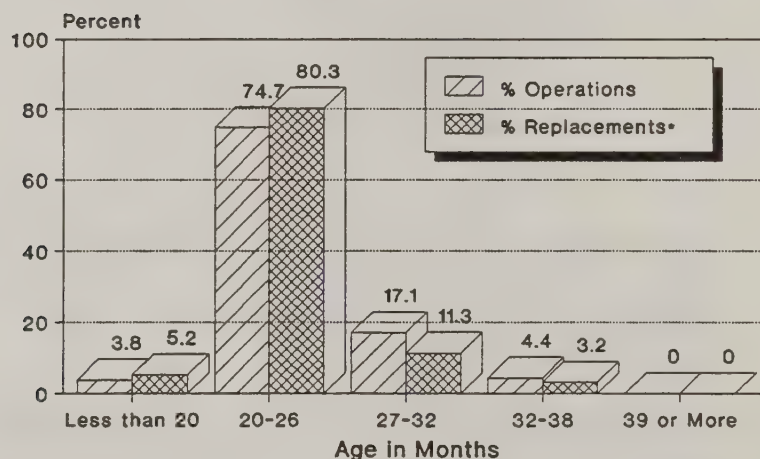
Part II: B. Population Estimates Based on Data Collected

1. Calving management

a. First calving

i. Age of replacement heifers at first calving:	Number of Months	Standard Error
Operation average	25.2	(±0.2)
Replacement heifer average ¹	24.8	(±0.2)
ii. Percent of operations (and percent of replacement heifers on these operations) by age of replacement heifers at first calving:	Percent of Operations	Standard Error
	Percent of Replacement Heifers ¹	Standard Error
Age in Months		
Less than 20	3.8	(±1.3)
20-26	74.7	(±2.8)
27-32	17.1	(±2.5)
32-38	4.4	(±1.3)
39 or more	0.0	(±0.0)
Total	100.0	100.0

Percent of Operations by Age of Replacement Heifers at First Calving



*Calculated as if all replacement heifers on an operation would calve at the same month of age.

iii. Percent of operations separating replacement heifers from cows, at least:

	Percent of Operations	Standard Error
30 days before calving	35.9	(±2.8)
30 days after calving	21.4	(±2.4)

¹ Calculated if all replacement heifers on an operation would calve at the same month of age.

1. Calving management (continued)

b. Calving location

- i. Percent of operations that separate cow/calf pairs from pregnant cows within a week after calving:

	<u>Percent</u>	<u>Standard Error</u>
Percent of operations	14.9	(± 2.1)

- ii. Percent of cows on operations that separate cow/calf pairs from pregnant cows within a week after calving:

	25.7	(± 2.9)
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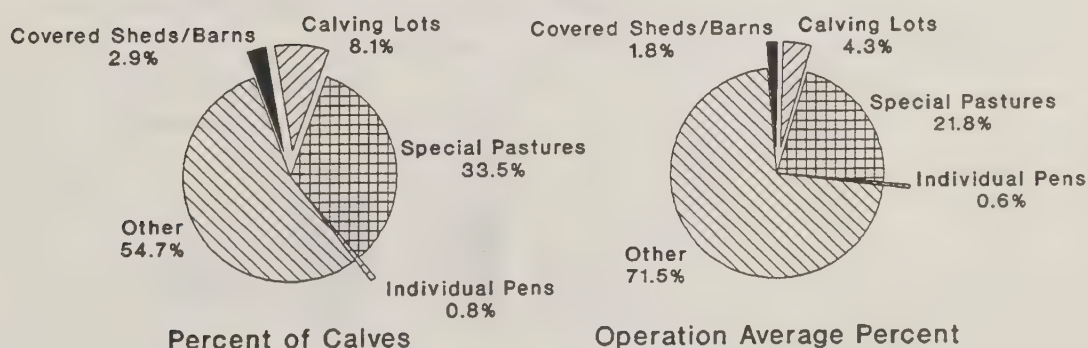
- iii. Percent of operations where one or more calves were born in each location in the last 12 months:

<u>Location</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
Special calving pastures that allow increased observation and/or shelter	32.8	(± 2.7)
Calving lots	8.5	(± 1.5)
Individual calving pens	1.6	(± 0.6)
Covered sheds or barns	5.9	(± 1.4)
Other locations	76.7	(± 2.3)

- iv. Percent of calves born by location:

<u>Location</u>	<u>Percent of Calves</u>	<u>Standard Error</u>	<u>Operation Average Percent</u>	<u>Standard Error</u>
Special calving pastures that allow increased observation and/or shelter	33.5	(± 2.6)	21.8	(± 2.1)
Calving lots	8.1	(± 1.4)	4.3	(± 0.7)
Individual calving pens	0.8	(± 0.3)	0.6	(± 0.3)
Covered sheds or barns	2.9	(± 1.2)	1.8	(± 0.6)
Other locations	54.7	(± 2.7)	71.5	(± 2.3)
Total	100.0		100.0	

Percent of Calves Born by Location



1. Calving management (continued)

c. Observing females during calving season

i. Operation average number of times females were observed over a 24-hour period during the calving season:

<u>Female Group</u>	<u>Number of Times</u>	<u>Standard Error</u>
Replacement heifers	2.9 ¹	(±0.2)
Mature cows	1.9	(±0.1)

ii. Percent of operations by number of times females were observed over a 24-hour period:

<u>Number of Times Observed</u>	<u>Replacement Heifers¹</u>		<u>Mature Cows</u>	
	<u>Percent of Operations</u>	<u>Standard Error</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
0	4.7	(±1.7)	7.8	(±1.5)
1-2	57.2	(±3.5)	72.9	(±2.5)
3-4	21.7	(±2.8)	13.5	(±1.9)
5 or more	<u>16.4</u>	(±2.3)	<u>5.8</u>	(±1.0)
Total	100.0		100.0	

d. Calving assistance

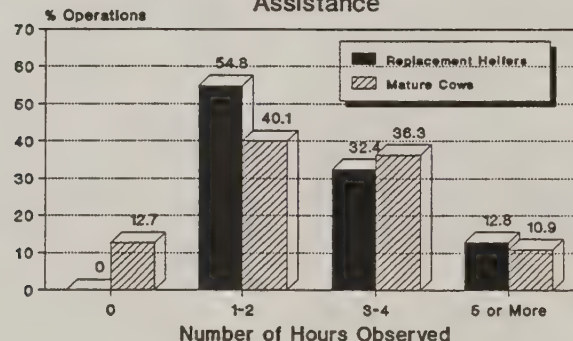
i. Operation average number of hours females were allowed to labor before given assistance:

	<u>Number of Hours</u>	<u>Standard Error</u>
Replacement heifers	2.9 ¹	(±0.1)
Mature cows	2.6	(±0.1)

ii. Percent of operations by number of hours females were allowed to labor before given assistance:

<u>Number of Hours Observed</u>	<u>Replacement Heifers¹</u>		<u>Mature Cows</u>	
	<u>Percent of Operations</u>	<u>Standard Error</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
0	0.0	(±0.0)	12.7	(±2.2)
1-2	54.8	(±3.3)	40.1	(±2.9)
3-4	32.4	(±3.3)	36.3	(±3.0)
5 or more	<u>12.8</u>	(±2.3)	<u>10.9</u>	(±1.9)
Total	100.0		100.0	

% Operations by Number of Hours Females Were Allowed to Labor Before Given Assistance



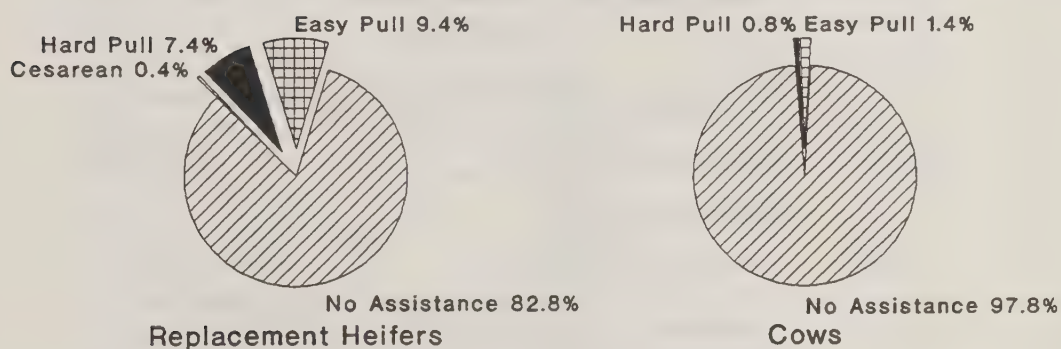
¹ Only included operations with replacement heifers.

1. Calving management (continued)

iii. Percent of females requiring various levels of assistance during calving:

	<u>Replacement Heifers¹</u>		<u>Mature Cows</u>	
	Percent	Standard Error	Percent	Standard Error
No assistance	82.8	(± 1.6)	97.8	(± 0.2)
Easy pull	9.4	(± 1.4)	1.4	(± 0.2)
Hard pull	7.4	(± 0.8)	0.8	(± 0.1)
Cesarean section	0.4	(± 0.1)	0.0	(± 0.0)
Total	100.0		100.0	

Percent of Females Requiring Various Levels of Assistance During Calving



iv. Operation average percent of assisted births attended by a veterinarian:

<u>Percent of Assisted Births</u>	<u>Standard Error</u>
12.8	(± 1.7)

v. Percent of assisted births attended by a veterinarian:

<u>Percent of Assisted Births</u>	<u>Standard Error</u>
15.3	(± 2.0)

¹ Only included operations with replacement heifers.

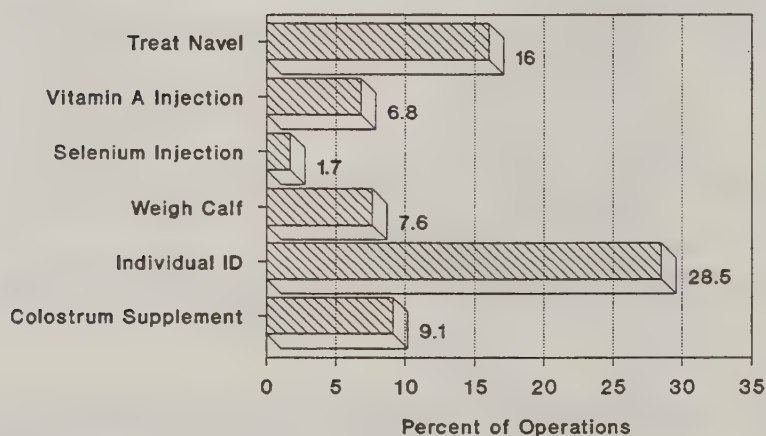
1. Calving management (continued)

e. Management practices at birth

i. Percent of operations where selected management practices were routinely performed on calves within 24 hours after birth:

<u>Management Practices</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
Treat navel with disinfectant	16.0	(± 2.2)
Vitamin A injection	6.8	(± 1.4)
Selenium injection	1.7	(± 0.6)
Weigh calf	7.6	(± 1.5)
Individual identification	28.5	(± 2.5)
Provide a colostrum supplement	9.1	(± 1.7)

**Selected Management Practices Routinely
Performed on Calves Within 24 Hours
After Birth**



f. Factors determining calving season

i. Percent of operations by the most used factor in determining the timing of the 1992 calving season:

<u>Determining Factor</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
No set calving season	52.7	(± 2.9)
Market cycle	4.9	(± 1.4)
Maximize age/weight at weaning	5.2	(± 1.3)
Forage availability	5.6	(± 1.1)
Tradition	11.9	(± 1.7)
Labor availability	2.9	(± 0.9)
Time of cattle movement	0.8	(± 0.4)
Weather during calving	14.2	(± 1.9)
Other	1.8	(± 0.7)
Total	100.0	

2. Replacement management during 1992

a. Source of replacement females

i. Operation average percent of replacement females:

<u>Source</u>	<u>Percent of Females</u>	<u>Standard Error</u>
Purchased	21.1	(±2.2)
Raised	<u>78.9</u>	(±2.2)
Total	100.0	

ii. Percent of replacement females:

<u>Source</u>	<u>Percent of Females</u>	<u>Standard Error</u>
Purchased	11.6	(±1.9)
Raised	<u>88.4</u>	(±1.9)
Total	100.0	

b. Importance of factors in purchasing or selecting females:

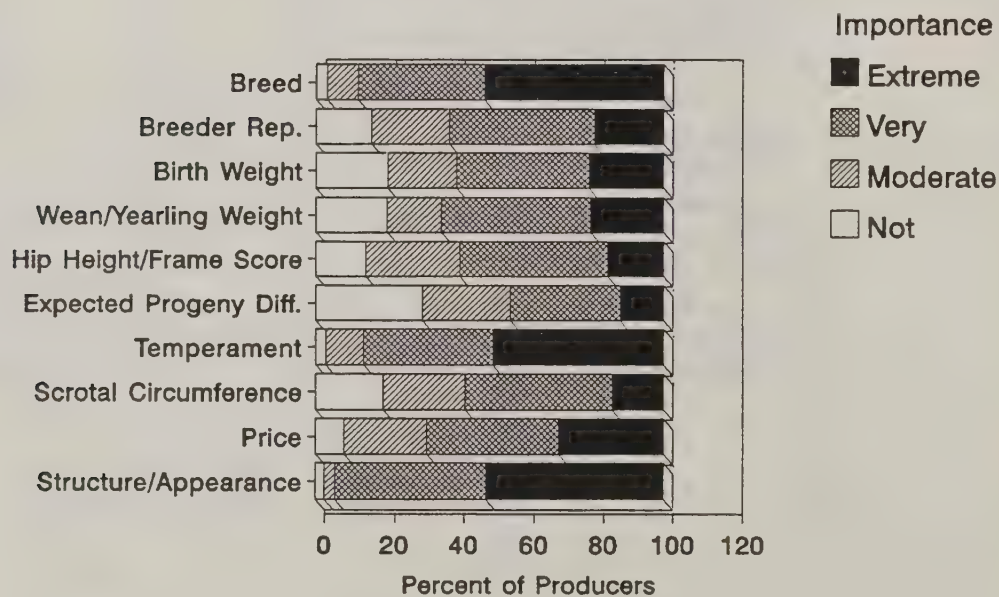
<u>Factors</u>	<u>Percent of Operations by Level of Importance</u>			
	<u>Not</u>	<u>Moderate</u>	<u>Very</u>	<u>Extreme</u>
Breed	13.5	30.8	33.1	22.6
Standard Error	(±2.1)	(±3.0)	(±3.0)	(±2.4)
Reputation of breeder	38.1	20.8	28.1	13.0
Standard Error	(±3.1)	(±2.3)	(±2.9)	(±2.1)
Birth weight	34.9	27.9	28.1	9.1
Standard Error	(±3.1)	(±2.9)	(±2.8)	(±1.5)
Weaning weight/yearling weight	25.7	21.7	37.6	15.0
Standard Error	(±2.8)	(±2.6)	(±3.0)	(±2.1)
Hip height/frame score	27.0	29.9	34.3	8.8
Standard Error	(±2.9)	(±2.8)	(±3.0)	(±1.4)
Price	19.9	18.4	35.2	26.5
Standard Error	(±2.2)	(±2.2)	(±3.2)	(±2.8)
Pelvic area	23.9	30.4	33.3	12.4
Standard Error	(±2.6)	(±3.0)	(±2.9)	(±1.8)
Reproductive tract score	32.4	26.5	30.9	10.2
Standard Error	(±3.0)	(±2.7)	(±3.2)	(±1.7)
Appearance	4.2	17.5	53.6	24.7
Standard Error	(±1.1)	(±2.2)	(±3.2)	(±2.6)
Temperament	7.9	14.5	44.4	33.2
Standard Error	(±1.8)	(±2.1)	(±3.1)	(±2.8)
Sire information	20.5	23.6	36.1	19.8
Standard Error	(±2.4)	(±2.8)	(±3.1)	(±2.3)
Longevity of reproductive life	19.8	21.4	42.0	16.8
Standard Error	(±2.5)	(±2.6)	(±3.2)	(±2.2)

2. Replacement management during 1992 (continued)

c. Importance of factors in purchasing or selecting a bull:

Factors	Percent of Operations by Level of Importance			
	Not	Moderate	Very	Extreme
Breed	3.1	8.9	36.3	51.7
Standard Error	(± 1.1)	(± 1.7)	(± 3.0)	(± 3.1)
Reputation of breeder	15.8	22.3	41.7	20.2
Standard Error	(± 2.2)	(± 2.7)	(± 3.2)	(± 2.1)
Birth weight	20.3	20.0	38.0	21.7
Standard Error	(± 2.5)	(± 2.5)	(± 3.0)	(± 2.3)
Weaning weight/yearling weight	20.2	15.7	42.9	21.2
Standard Error	(± 2.5)	(± 2.2)	(± 3.0)	(± 2.5)
Hip height/frame score	14.2	27.0	42.6	16.2
Standard Error	(± 2.1)	(± 2.7)	(± 3.1)	(± 2.1)
Expected progeny difference (EPD)	30.5	25.3	31.5	12.7
Standard Error	(± 3.0)	(± 2.8)	(± 3.0)	(± 1.7)
Temperament	2.8	10.9	37.0	49.3
Standard Error	(± 1.0)	(± 1.9)	(± 3.0)	(± 3.0)
Scrotal circumference	19.2	23.6	42.2	15.0
Standard Error	(± 2.4)	(± 2.5)	(± 3.0)	(± 2.0)
Price	8.1	23.7	37.9	30.3
Standard Error	(± 1.6)	(± 2.6)	(± 2.9)	(± 2.9)
Structural soundness/appearance	2.5	3.0	43.3	51.2
Standard Error	(± 0.9)	(± 1.0)	(± 3.2)	(± 3.2)

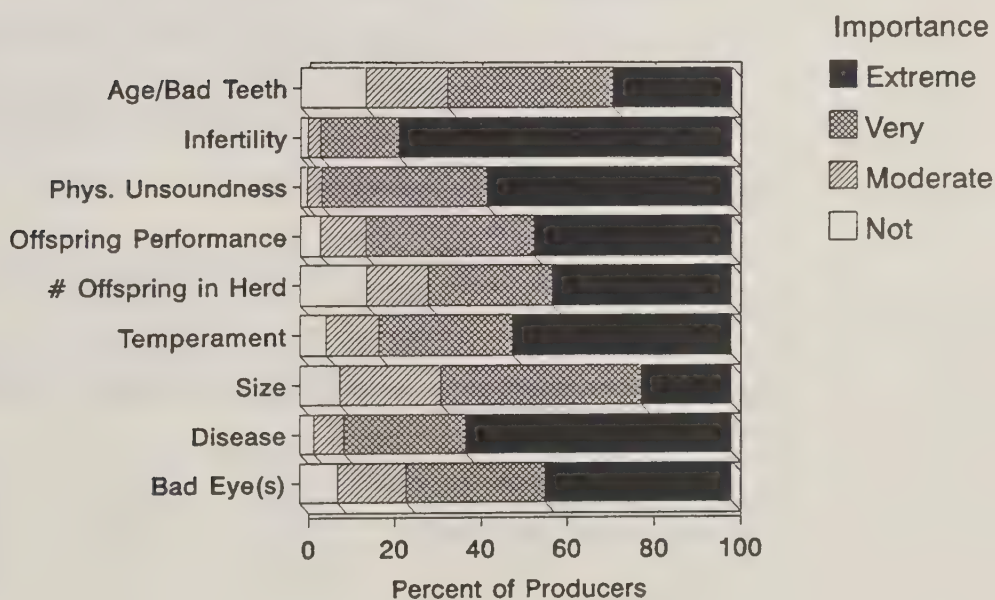
Factors in Purchasing or Selecting a Bull by Level of Importance



2. Replacement management during 1992 (continued)

d. Importance of factors in culling bulls:

Factors	Percent of Operations by Level of Importance			
	None	Moderate	Very	Extreme
Age/bad teeth	15.2	18.9	38.4	27.5
Standard Error	(± 2.1)	(± 2.4)	(± 3.0)	(± 2.7)
Infertility	1.6	3.1	18.2	77.1
Standard Error	(± 0.5)	(± 1.3)	(± 2.6)	(± 2.8)
Physical unsoundness (injury/lameness)	1.5	3.4	38.4	56.7
Standard Error	(± 0.5)	(± 1.2)	(± 3.1)	(± 3.1)
Performance of offspring	4.7	10.6	39.1	45.6
Standard Error	(± 1.3)	(± 2.0)	(± 3.1)	(± 3.1)
Too many offspring in herd	15.5	14.3	28.8	41.4
Standard Error	(± 2.2)	(± 2.1)	(± 2.9)	(± 3.0)
Temperament	6.1	12.4	31.0	50.5
Standard Error	(± 1.6)	(± 2.0)	(± 2.9)	(± 3.1)
Size	9.3	23.4	46.3	21.0
Standard Error	(± 2.0)	(± 2.6)	(± 3.1)	(± 2.4)
Disease	3.2	7.1	28.2	61.5
Standard Error	(± 0.7)	(± 1.7)	(± 2.9)	(± 3.1)
Bad eye(s)	8.8	16.0	32.2	43.0
Standard Error	(± 1.8)	(± 2.3)	(± 2.9)	(± 3.1)

Factors in Culling a Bull
by Level of Importance

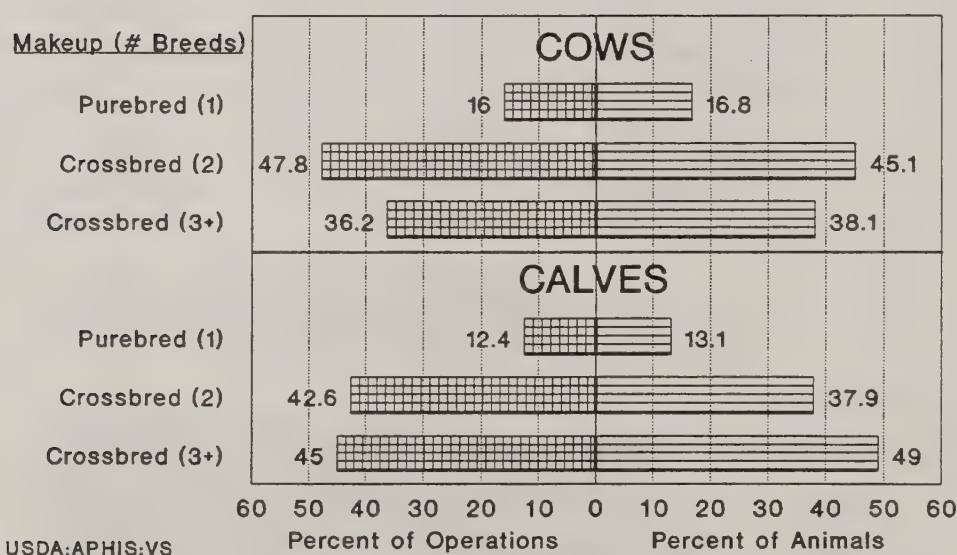
2. Replacement management during 1992 (continued)

e. Breed makeup

i. Percent of operations (and percent of cows on these operations) by breed makeup of the majority of the cows:

<u>Breed Makeup of Cows</u>	<u>Percent of Operations</u>	<u>Standard Error</u>	<u>Percent of Cows</u>	<u>Standard Error</u>
Purebred or straightbred (only one breed)	16.0	(± 2.1)	16.8	(± 2.0)
Crossbred (two breeds)	47.8	(± 3.1)	45.1	(± 3.0)
Crossbred (three or more breeds)	<u>36.2</u>	(± 3.0)	<u>38.1</u>	(± 2.9)
Total	100.0		100.0	

Percent of Operations by the Majority of Breed Makeup of Cows & Calves



ii. Percent of operations (and percent of calves on these operations) by breed makeup of the majority of the 1992 calf crop:

<u>Breed Makeup of Calf Crop</u>	<u>Percent of Operations</u>	<u>Standard Error</u>	<u>Percent of Calves</u>	<u>Standard Error</u>
Purebred or straightbred (only one breed)	12.4	(± 1.8)	13.1	(± 1.7)
Crossbred (two breeds)	42.6	(± 3.2)	37.9	(± 3.0)
Crossbred (three or more breeds)	<u>45.0</u>	(± 3.0)	<u>49.0</u>	(± 3.1)
Total	100.0		100.0	

2. Replacement management during 1992 (continued)

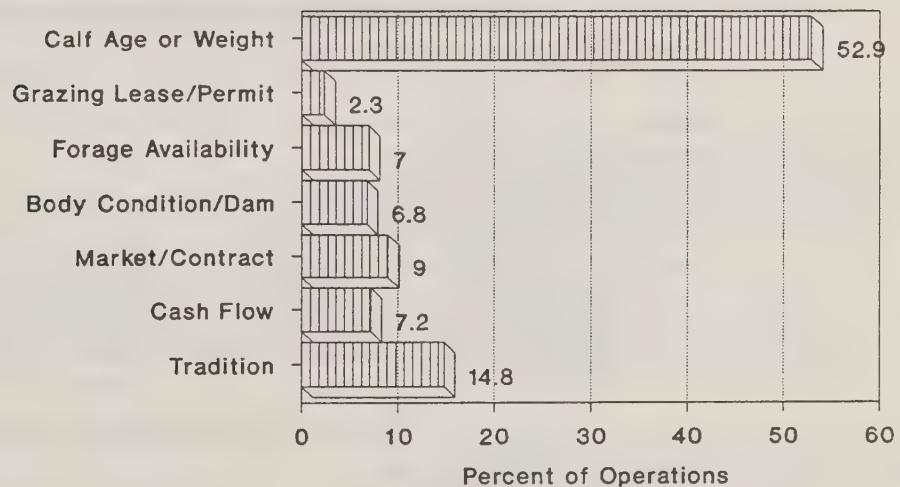
f. Factors determining weaning time

i. Percent of operations by the most important factor for determining when to wean calves:

<u>Determining Factor</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
Calf age/weight	52.9	(± 3.1)
End of grazing lease or permit	2.3	(± 0.9)
Forage availability	7.0	(± 1.4)
Body condition of dam	6.8	(± 1.7)
Market price or contract	9.0	(± 2.2)
Cash flow	7.2	(± 1.9)
Tradition	<u>14.8</u>	(± 2.0)
Total	100.0	

Most Important Factor for Determining When to Wean Calves

Determining Factor:



g. Fall weight of mature cows (producer estimates)

i. Average weight of mature cows in the fall:	<u>Pounds per Cow</u>	<u>Standard Error</u>
Operation average mature cow weight	1,022.9	(± 9.7)
Mature cow average weight	1,047.2	(± 7.5)

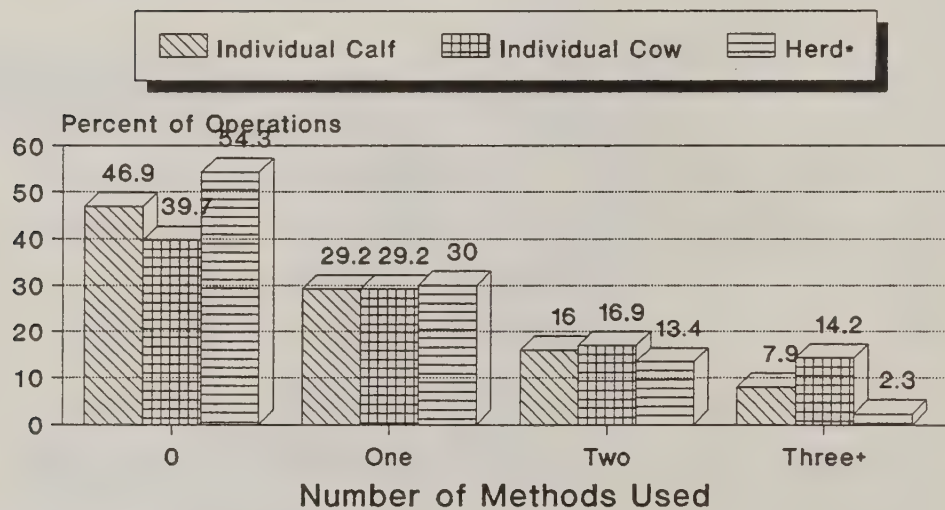
3. Operation records and marketing

a. Methods of identification

i. Number of identification methods used per operation:

<u>Number</u> <u>Method</u>	<u>Individual Calf</u>		<u>Individual Cow</u>		<u>Herd¹</u>	
	Percent of Operations	Stand. Error	Percent of Operations	Stand. Error	Percent of Operations	Stand. Error
0	46.9	(±2.9)	39.7	(±3.1)	54.3	(±3.0)
One	29.2	(±2.6)	29.2	(±2.7)	30.0	(±2.7)
Two	16.0	(±1.9)	16.9	(±2.0)	13.4	(±1.8)
Three or more	<u>7.9</u>	(±1.4)	<u>14.2</u>	(±1.8)	<u>2.3</u>	(±0.7)
Total	100.0		100.0		100.0	

**Number of Identification
Methods Used per Operation**



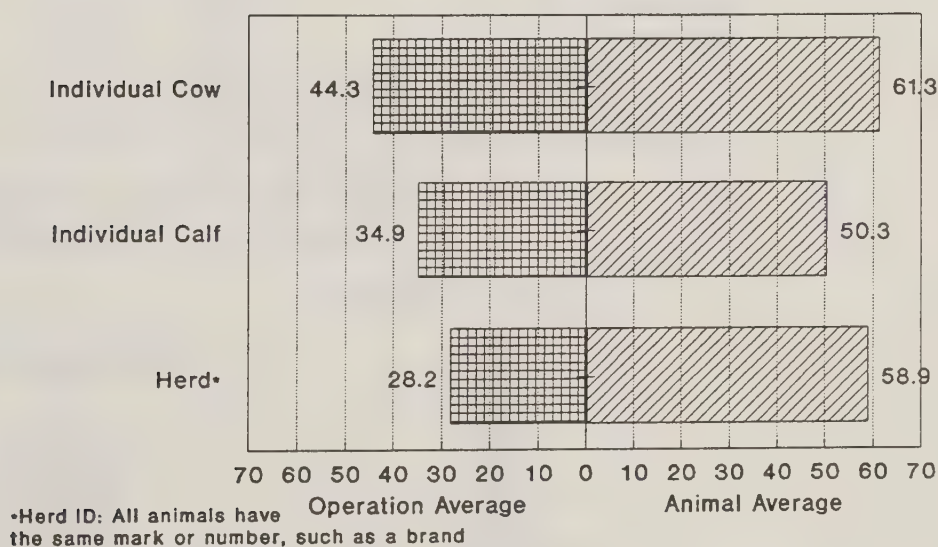
•Herd ID: all animals have same mark or number, such as a brand.

¹ A herd level identification is one where all animals have the same mark or number, such as a brand.

3. Operation records and marketing (continued)

ii. Percent of operations using the following methods of identification:

Method	Individual Calf		Individual Cow		Herd ¹	
	Percent of Operations	Stand. Error	Percent of Operations	Stand. Error	Percent of Operations	Stand. Error
Brucellosis ear tag	21.7	(±2.2)	28.3	(±2.4)	NA ²	NA ²
Other metal ear tag	1.4	(±0.5)	1.5	(±0.5)	1.0	(±0.4)
Plastic ear tag	40.8	(±2.8)	45.3	(±3.0)	27.1	(±2.7)
Ear tattoo	10.2	(±1.5)	12.9	(±1.7)	6.8	(±1.2)
Hot iron brand	12.1	(±1.7)	17.9	(±2.1)	21.4	(±2.2)
Freeze brand	0.5	(±0.3)	2.1	(±0.8)	1.2	(±0.5)
Microchip transponder	0.4	(±0.4)	0.7	(±0.5)	0.4	(±0.4)
Neck chain	0.0	(±0.0)	0.4	(±0.4)	0.0	(±0.0)
Horn brand	0.0	(±0.0)	0.4	(±0.4)	0.1	(±0.1)
Ear notch	NA ²	NA ²	NA ²	NA ²	6.5	(±1.1)
Brisket tag	0.0	(±0.0)	0.4	(±0.4)	0.0	(±0.0)
None	46.9	(±2.9)	39.7	(±3.1)	54.3	(±3.0)

Individual ID Status for Cows & Calves
in Beef Cow/Calf Industry

1 A herd level identification is one where all animals have the same mark or number, such as a brand.

2 NA: Not applicable.

3. Operation records and marketing (continued)

iii. Percent of animals (calves, cows, and total cattle) on operations using the following methods of identification:

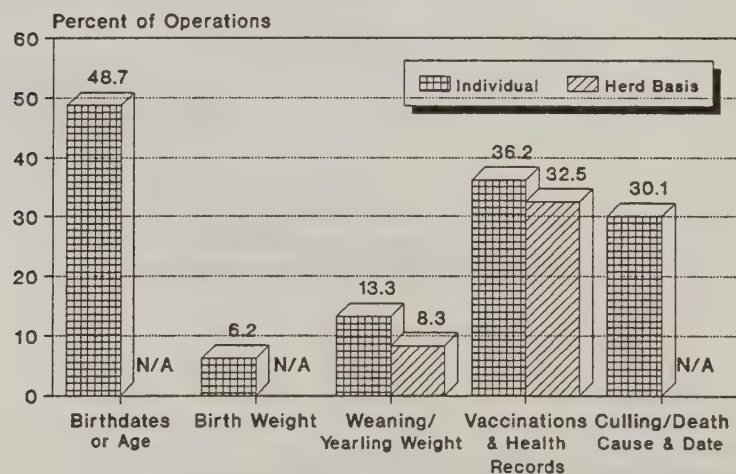
Method	Individual Calf		Individual Cow		Herd	
	Percent of Calves	Stand. Error	Percent of Cows	Stand. Error	Percent of Total Cattle	Stand. Error
Brucellosis ear tag	30.4	(±2.8)	40.3	(±3.1)	NA ¹	NA ¹
Other metal ear tag	2.1	(±0.6)	2.4	(±0.8)	1.6	(±0.6)
Plastic ear tag	55.9	(±2.9)	61.3	(±2.8)	32.8	(±2.9)
Ear tattoo	13.6	(±1.7)	20.2	(±2.5)	11.3	(±2.2)
Hot iron brand	22.0	(±2.8)	31.3	(±3.1)	40.2	(±2.8)
Freeze brand	0.9	(±0.5)	2.6	(±1.1)	1.5	(±0.6)
Microchip transponder	0.5	(±0.4)	0.4	(±0.3)	0.2	(±0.2)
Neck chain	0.2	(±0.2)	0.4	(±0.3)	0.1	(±0.1)
Horn brand	0.2	(±0.2)	0.2	(±0.2)	0.3	(±0.2)
Ear notch	NA ¹	NA ¹	NA ¹	NA ¹	17.5	(±2.1)
Brisket tag	0.2	(±0.2)	0.7	(±0.3)	0.3	(±0.2)
None	29.8	(±2.6)	21.5	(±2.2)	34.1	(±2.9)

b. Record keeping

i. Percent of operations recording the following information for individual animals or on a herd basis:

Information Type	Percent of Operations			
	Individual	Stand. Error	Basis	Stand. Error
Birthdates or age	48.7	(±3.2)	NA ¹	NA ¹
Birth weight	6.2	(±1.1)	NA ¹	NA ¹
Weaning weight/yearling weight	13.3	(±1.9)	8.3	(±1.3)
Vaccinations and health records	36.2	(±2.9)	32.5	(±2.9)
Culling/death cause and date	30.1	(±2.7)	NA ¹	NA ¹

Percent of Operations Recording Various Kinds of Information



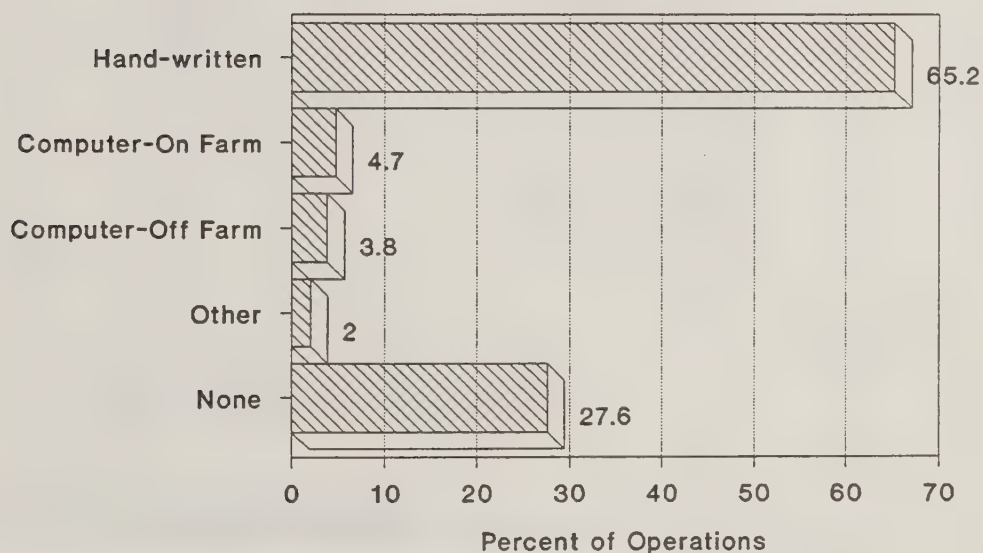
¹ NA: Not applicable.

3. Operation records and marketing (continued)

ii. Percent of operations using the following methods to keep records:

<u>Record Type</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
Hand-written records	65.2	(± 3.1)
Computer located on-farm	4.7	(± 1.1)
Computer located off-farm	3.8	(± 1.1)
Other	2.0	(± 0.6)
No records are kept	27.6	(± 3.2)

**Percent of Operations by Method of
Record Keeping**



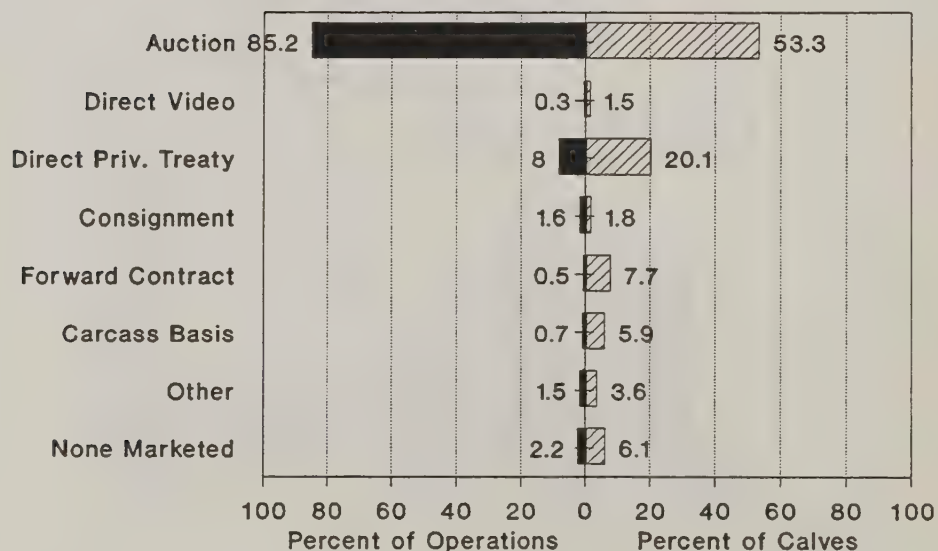
3. Operation records and marketing (continued)

c. Marketing methods in 1992

i. Percent of operations using the following methods by class of animal:

<u>Marketing Methods</u>	<u>Percent of Operations</u>			
	<u>Weaned Steers/Bulls</u>	<u>Weaned Heifers</u>	<u>Cull Cows</u>	<u>Cull Bulls</u>
Auction	85.2	84.0	94.3	90.6
Standard Error	(± 1.9)	(± 2.1)	(± 1.4)	(± 1.7)
Direct video	0.3	0.2	0.0	0.0
Standard Error	(± 0.1)	(± 0.1)	(± 0.0)	(± 0.0)
Direct private treaty	8.0	7.8	0.6	2.8
Standard Error	(± 1.5)	(± 1.5)	(± 0.2)	(± 0.9)
Consignment	1.6	1.1	0.2	0.0
Standard Error	(± 0.6)	(± 0.5)	(± 0.1)	(± 0.0)
Forward contract	0.5	0.2	0.0	0.0
Standard Error	(± 0.3)	(± 0.1)	(± 0.0)	(± 0.0)
Carcass basis	0.7	0.6	0.3	0.3
Standard Error	(± 0.5)	(± 0.5)	(± 0.1)	(± 0.1)
Another method	1.5	1.4	0.6	0.8
Standard Error	(± 0.5)	(± 0.5)	(± 0.3)	(± 0.5)
None marketed	2.2	4.7	4.0	5.5
Standard Error	(± 0.8)	(± 1.2)	(± 1.4)	(± 1.4)
Total	100.0	100.0	100.0	100.0

Use of Marketing Methods for Weaned Steers/Bulls



3. Operation records and marketing (continued)

- ii. Percent of animals on operations (as a percent of all animals) using the following methods by class of animal:

<u>Marketing Methods</u>	<u>Percent of Operations</u>			
	<u>Weaned Steers/Bulls</u>	<u>Weaned Heifers</u>	<u>Cull Cows</u>	<u>Cull Bulls</u>
Auction	53.3	67.8	93.4	89.4
Standard Error	(±7.1)	(±3.6)	(±1.2)	(±1.9)
Direct video	1.5	1.4	0.1	0.1
Standard Error	(±0.6)	(±0.5)	(±0.0)	(±0.0)
Direct private treaty	20.1	16.8	2.7	4.3
Standard Error	(±5.7)	(±2.8)	(±0.6)	(±1.4)
Consignment	1.8	0.7	0.1	0.2
Standard Error	(±1.2)	(±0.3)	(±0.1)	(±0.2)
Forward contract	7.7	3.6	0.0	0.0
Standard Error	(±3.8)	(±2.0)	(±0.0)	(±0.0)
Carcass basis	5.9	1.3	1.3	2.2
Standard Error	(±2.8)	(±0.6)	(±0.3)	(±1.0)
Another method	3.6	2.4	0.9	0.5
Standard Error	(±2.3)	(±0.9)	(±0.4)	(±0.2)
None marketed	6.1	6.0	1.5	3.3
Standard Error	(±2.5)	(±1.5)	(±0.9)	(±0.9)
Total	100.0	100.0	100.0	100.0

d. Forward pricing of 1992 calf crop

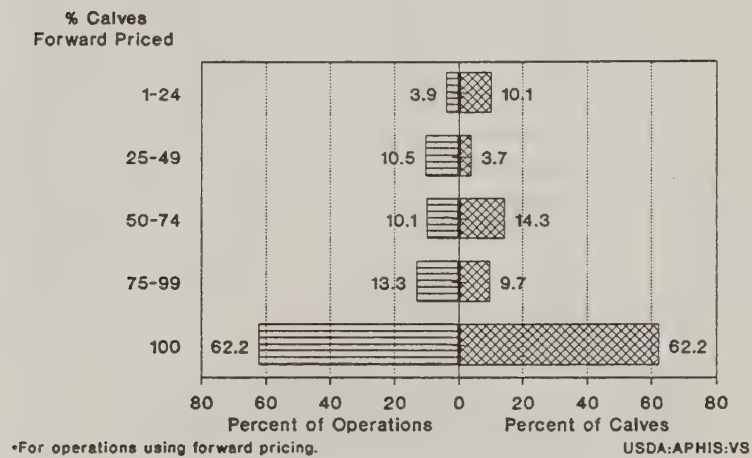
	<u>Percent</u>	<u>Standard Error</u>		
i. Percent of operations forward pricing:	2.0	(±1.0)		
ii. Operation average percent of calves forward priced:	1.6	(±0.9)		
iii. Percent of all calves forward priced:	5.0	(±1.3)		
iv. Percent of operations and percent of all calves using forward pricing by size of cow herd:				
<u>Cow Herd Size Group</u>	<u>Percent of Operations</u>	<u>Standard Error</u>	<u>Percent of All Calves</u>	<u>Standard Error</u>
1-4	0.0	(±0.0)	0.0	(±0.0)
5-9	0.0	(±0.0)	0.0	(±0.0)
10-49	2.1	(±1.7)	3.6	(±3.4)
50-99	1.7	(±1.5)	1.9	(±1.7)
100-299	3.3	(±1.2)	3.6	(±1.2)
300 or more	16.2	(±4.8)	20.9	(±5.1)
v. For operations using forward pricing, percent of calves forward priced:			82.5	(±9.9)

3. Operation records and marketing (continued)

vi. For operations using forward pricing, percent of operations and percent of calves by percent of calves forward priced:

<u>Reported Percent of Calves Forward Priced (Interval)</u>	<u>Percent of Operations</u>	<u>Standard Error</u>	<u>Percent of Calves</u>	<u>Standard Error</u>
1-24	3.9	(±2.8)	10.1	(±4.6)
25-49	10.5	(±9.9)	3.7	(±2.7)
50-74	10.1	(±6.3)	14.3	(±5.4)
75-99	13.3	(±11.7)	9.7	(±6.1)
100	<u>62.2</u>	(±19.9)	<u>62.2</u>	(±9.9)
Total	100.0		100.0	

Percent of Operations and Calves by
Percent of Calves Forward Priced*



vii. For operations using forward pricing, operation average percent of forward priced contracts (and percent of calves on these operations) that were:

	<u>Percent of Contracts</u>	<u>Standard Error</u>	<u>Percent of Calf Crop</u>	<u>Standard Error</u>
Forward cash	37.4	(±18.6)	54.7	(±10.6)
Future contract	11.4	(±7.3)	13.8	(±5.0)
Options	48.5	(±24.9)	25.4	(±12.2)
Another technique	<u>2.7</u>	(±2.3)	<u>6.1</u>	(±4.0)
Total	100.0		100.0	

4. Nutrition

a. Nutritional analysis

i. Percent of operations (and cows on these operations) that calculate a winter feed schedule or ration based on the animals' requirements and the quality of the feedstuffs available:

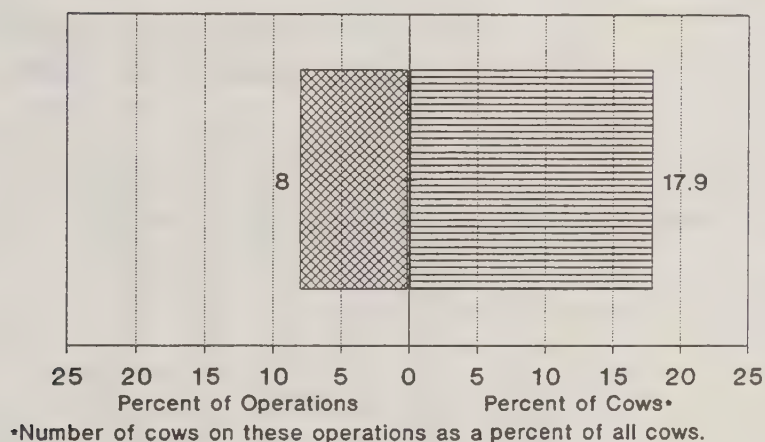
	<u>Percent</u>	<u>Standard Error</u>
Percent of operations	48.7	(±3.1)
Number of cows on these operations as a percent of cows on all operations	56.7	(±3.0)

4. Nutrition (continued)

ii. Percent of operations (and cows on these operations) having a laboratory nutritional analysis completed on purchased or raised feed in the last 12 months:

	<u>Percent</u>	<u>Standard Error</u>
Percent of operations	8.0	(± 1.3)
Number of cows on these operations as a percent of cows on all operations	17.9	(± 2.0)

Laboratory Nutritional Analysis
Completed on Purchased or Raised Feed



b. Supplements and feed fed

i. Percent of operations feeding the following to the cow herd in the previous 12 months:

<u>Compound/Element</u>	<u>Percent of Operations</u>			
	<u>Fall/Winter</u> <u>(10/91 - 3/92)</u>	<u>Stand. Error</u>	<u>Spring/Summer</u> <u>(4/92-9/92)</u>	<u>Stand. Error</u>
Salt	63.0	(± 3.0)	62.2	(± 3.0)
Trace mineral salt	82.1	(± 2.3)	78.6	(± 2.5)
Phosphorus	35.5	(± 2.8)	31.0	(± 2.6)
Magnesium	41.3	(± 3.1)	46.1	(± 3.0)

ii. Percent of operations where Vitamin A is supplied to the cow herd by:

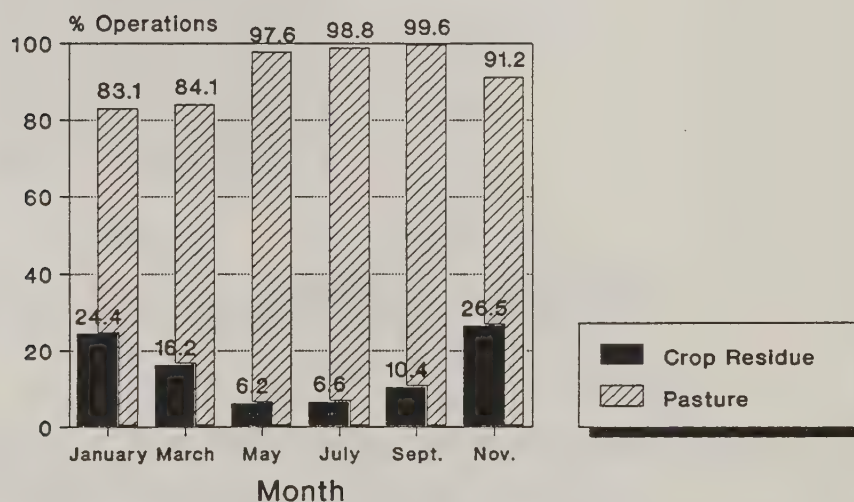
<u>Method of Delivery</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
Feeding alfalfa hay	29.1	(± 2.6)
Using a mineral mix containing Vitamin A	49.9	(± 3.1)
Injecting Vitamin A	7.4	(± 1.6)
Using a protein supplement containing Vitamin A	42.6	(± 3.0)

4. Nutrition (continued)

iii. Percent of operations providing the cow herd with access to pasture or crop residue by month:

<u>Month</u>	<u>Percent of Operations</u>			
	<u>Pasture</u>	<u>Standard Error</u>	<u>Crop Residue</u>	<u>Standard Error</u>
January	83.1	(± 1.9)	24.4	(± 2.3)
March	84.1	(± 1.8)	16.2	(± 2.0)
May	97.6	(± 1.1)	6.2	(± 1.8)
July	98.8	(± 0.8)	6.6	(± 2.0)
September	99.6	(± 0.2)	10.4	(± 1.9)
November	91.2	(± 1.5)	26.5	(± 2.5)

Cow Herd Access to Pasture and Crop Residue by Month



iv. Percent of operations feeding the following to the cow herd during 1992 by month:

<u>Month</u>	<u>Percent of Operations Feeding</u>			
	<u>Hay</u>	<u>Silage</u>	<u>Supplements</u>	<u>Grain</u>
January	91.9	6.1	53.3	28.5
Stand. Error	(± 1.4)	(± 1.3)	(± 3.0)	(± 2.8)
March	89.7	5.9	51.6	27.3
Stand. Error	(± 1.8)	(± 1.3)	(± 3.0)	(± 2.8)
May	20.3	3.8	17.9	7.8
Stand. Error	(± 2.4)	(± 1.1)	(± 2.3)	(± 1.6)
July	4.9	2.6	13.2	4.5
Stand. Error	(± 1.3)	(± 1.0)	(± 1.9)	(± 1.3)
September	11.6	2.6	19.2	7.0
Stand. Error	(± 2.0)	(± 1.0)	(± 2.6)	(± 1.8)
November	66.2	3.4	44.6	18.9
Stand. Error	(± 2.8)	(± 1.0)	(± 3.0)	(± 2.5)

4. Nutrition (continued)

- v. For operations feeding the following feedstuffs in the indicated month, average pounds fed per head per day to the cow herd during 1992 by month:

<u>Month</u>	<u>Average Pounds per Head per Day</u>			
	<u>Hay</u>	<u>Silage</u>	<u>Supplements</u>	<u>Grain</u>
January	23.7	14.8	2.9	4.0
Stand. Error	(±0.9)	(±2.2)	(±0.4)	(±0.3)
March	23.4	14.7	2.9	4.0
Stand. Error	(±0.9)	(±2.2)	(±0.4)	(±0.3)
May	12.7	10.9	2.1	3.2
Stand. Error	(±1.2)	(±2.7)	(±0.2)	(±0.3)
July	8.3	4.5	1.8	2.8
Stand. Error	(±2.4)	(±1.6)	(±0.2)	(±0.3)
September	14.9	5.7	1.8	3.1
Stand. Error	(±2.0)	(±2.5)	(±0.2)	(±0.5)
November	20.2	9.8	2.7	3.8
Stand. Error	(±1.2)	(±2.8)	(±0.4)	(±0.4)

- vi. Percent of operations (and replacement heifers on these operations) that fed an ionophore to replacement heifers in the previous 12 months:

	<u>Percent</u>	<u>Standard Error</u>
Operations	7.3	(±1.4)
Number of replacement heifers on those operations as a percent of replacement heifers on all operations	17.7	(±2.7)

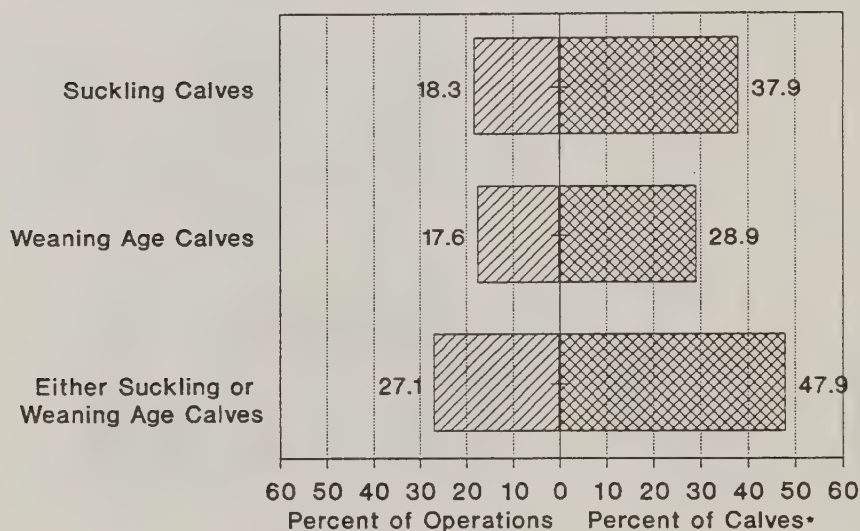
4. Nutrition (continued)

c. Implants

i. Percent of operations (and animals on these operations) that implant:

	<u>Percent</u>		<u>Percent</u>		<u>Percent</u>	
	<u>Suckling Calves</u>	<u>Stand. Error</u>	<u>Weaning Age Calves</u>	<u>Stand. Error</u>	<u>Either Suckling or Weaning Age Calves</u>	<u>Stand. Error</u>
Operations	18.3	(±2.1)	17.6	(±1.9)	27.1	(±2.4)
Number of calves on those operations as a percent of calves on all operations	37.9	(±3.1)	28.9	(±2.5)	47.9	(±3.0)

Implant Practices



*Number of calves on these operations as percent of calves on all operations.

ii. Of those operations that implant, the percent of operations that implant heifers for replacement purposes (and animals on those operations):

	<u>Percent</u>		<u>Percent</u>	
	<u>Suckling Calves</u>	<u>Standard Error</u>	<u>Weaning Age Calves</u>	<u>Standard Error</u>
Operations	38.7	(±6.0)	17.0	(±5.2)
Number of calves on these operations as a percent of calves on operations that implant	47.3	(±5.6)	14.3	(±3.0)

d. Creep feeding

i. Percent of operations providing unweaned calves with access to creep feed:

<u>Percent of Operations</u>	<u>Standard Error</u>
27.4	(±2.7)

4. Nutrition (continued)

- ii. Operation average number of days unweaned calves had access to creep feed:

<u>Number of Days</u>	<u>Standard Error</u>
113.7	(± 10.9)

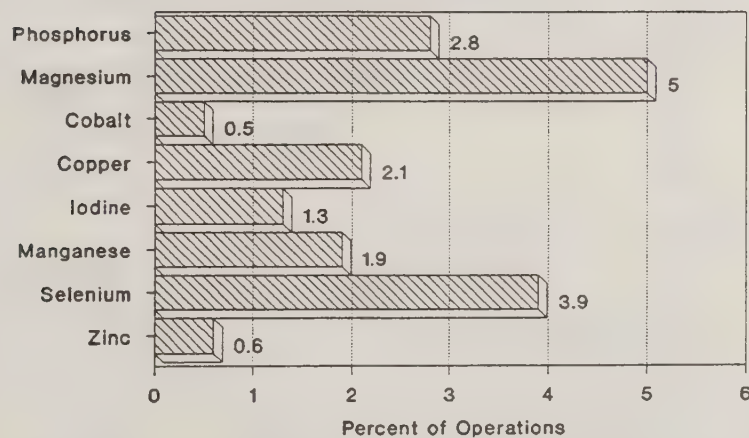
5. Animal health

a. Mineral deficiencies

- i. Percent of operations identifying the following minerals as deficient or a cause of health problems in the herd over the previous 5 years:

<u>Mineral</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
Phosphorus	2.8	(± 1.2)
Magnesium	5.0	(± 1.3)
Cobalt	0.5	(± 0.5)
Copper	2.1	(± 0.8)
Iodine	1.3	(± 0.6)
Manganese	1.9	(± 0.8)
Selenium	3.9	(± 1.1)
Zinc	0.6	(± 0.5)

Identification of Minerals as Deficient
or Cause of Health Problems in Herd
Last 5 Years



- ii. Percent of operations reporting a toxic level of selenium in tissue or body fluid samples from the herd in the last 5 years:

<u>Percent of Operations</u>	<u>Standard Error</u>
0.3	(± 0.3)

b. Deworming

- i. Percent of operations deworming one or more class of beef cattle:

<u>Percent of Operations</u>	<u>Standard Error</u>
77.4	(± 2.6)

5. Animal health (continued)

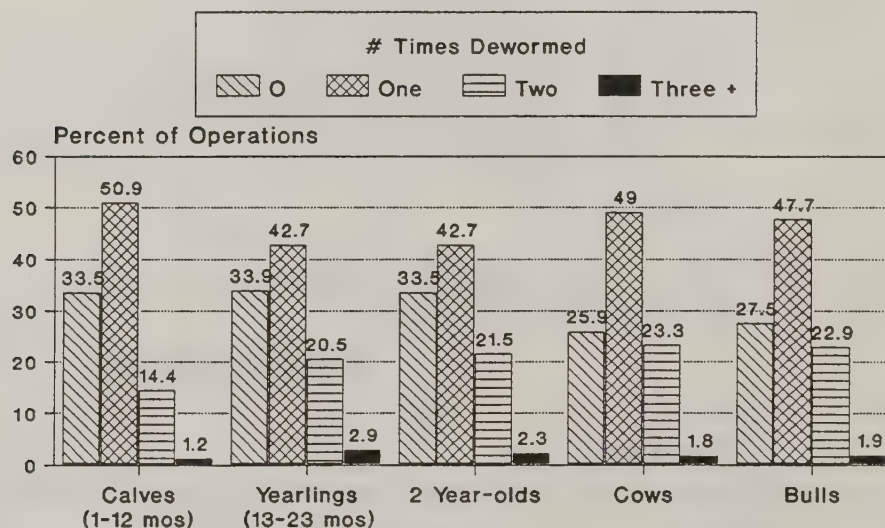
ii. Operation average number of times animals were dewormed in the previous 12 months:

<u>Group</u>	<u>Number of Times</u>	<u>Standard Error</u>
Calves (1-12 months)	0.8	(± 0.0) ¹
Yearlings (13-23 months)	0.9	(± 0.1)
2 year-olds	0.9	(± 0.0) ¹
Cows	1.0	(± 0.0) ¹
Bulls	1.0	(± 0.0) ¹

iii. Percent of operations by number of times animals were dewormed in the last 12 months:

<u>Group</u>	<u>Percent of Operations</u> <u>Reported Number of Times Dewormed</u>				<u>Total</u>
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3 or More</u>	
Calves (1-12 months)	33.5	50.9	14.4	1.2	100.0
Stand. Error	(± 3.1)	(± 3.1)	(± 2.1)	(± 0.5)	
Yearlings (13-23 months)	33.9	42.7	20.5	2.9	100.0
Stand. Error	(± 3.0)	(± 3.0)	(± 2.5)	(± 1.0)	
2 Year-olds	33.5	42.7	21.5	2.3	100.0
Stand. Error	(± 2.9)	(± 3.0)	(± 2.5)	(± 0.8)	
Cows	25.9	49.0	23.3	1.8	100.0
Stand. Error	(± 2.8)	(± 3.1)	(± 2.7)	(± 0.7)	
Bulls	27.5	47.7	22.9	1.9	100.0
Stand. Error	(± 2.7)	(± 3.1)	(± 2.6)	(± 0.7)	

Percent of Operations by Deworming Practice

¹ Standard error values rounded to zero.

5. Animal health (continued)

iv. Importance of factors in deworming cattle:

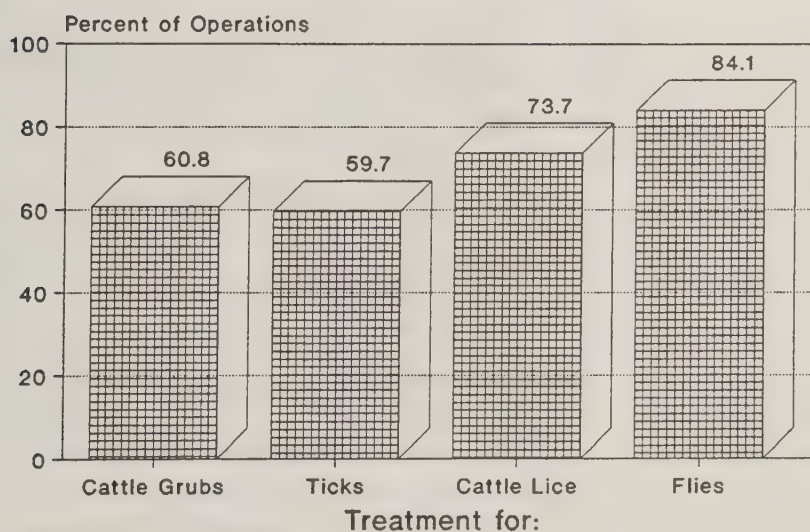
<u>Factors</u>	<u>Percent of Operations by Level of Importance</u>			
	<u>Not</u>	<u>Moderate</u>	<u>Very</u>	<u>Extreme</u>
Always have dewormed cattle (tradition)	18.3	13.6	35.8	32.3
Standard Error	(± 2.4)	(± 2.3)	(± 3.3)	(± 3.3)
Recommendation of veterinarian	31.0	20.5	28.3	20.2
Standard Error	(± 3.2)	(± 3.0)	(± 3.2)	(± 2.5)
Recommendation of another consultant or friend	55.7	25.4	14.5	4.4
Standard Error	(± 3.3)	(± 3.0)	(± 2.8)	(± 1.5)
Animals have loose feces (diarrhea)	38.1	16.1	24.3	21.5
Standard Error	(± 3.3)	(± 2.4)	(± 3.0)	(± 3.1)
Animals were looking poor (rough hair coat, weight loss, anemia, bottle jaw)	24.6	8.2	26.9	40.3
Standard Error	(± 2.9)	(± 1.7)	(± 3.1)	(± 3.5)
Fecal egg count	64.6	9.7	11.7	14.0
Standard Error	(± 3.3)	(± 2.0)	(± 2.5)	(± 2.2)

c. Treatment - grubs, ticks, lice, and flies

i. Percent of operations treating (using dips, sprays, insecticides, ear tags, powders, injections, etc.) cattle over the previous 12 months for:

	<u>Percent of Operations</u>	<u>Standard Error</u>
Cattle grubs (warbles, hypoderma)	60.8	(± 3.1)
Ticks	59.7	(± 3.1)
Cattle lice	73.7	(± 2.9)
Flies	84.1	(± 2.5)

Percent of Operations Treating Cattle

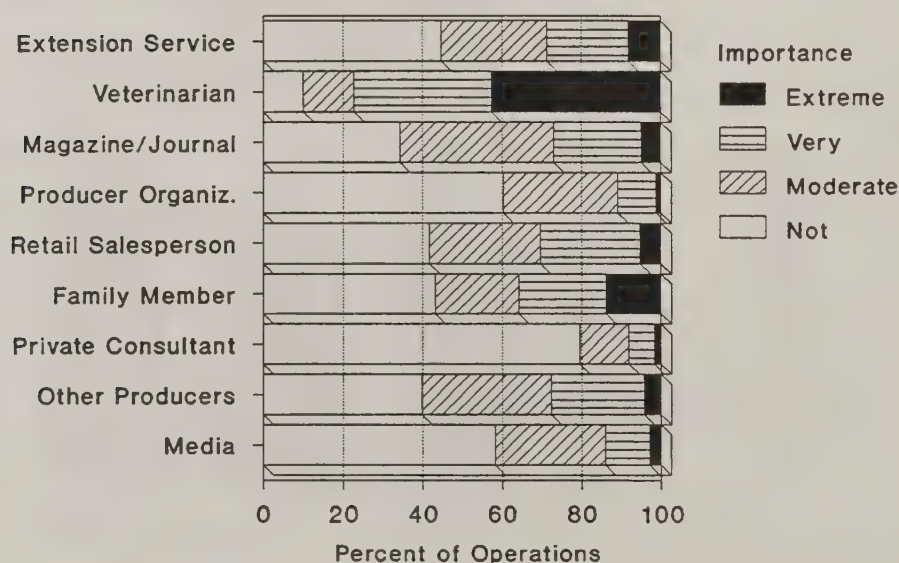


6. Sources of animal health or beef production information

a. Importance of sources of animal health information:

Source	Percent of Operations by Level of Importance			
	Not	Moderate	Very	Extreme
Cooperative Extension Service or university specialists	44.7	26.7	20.4	8.2
Standard Error	(±3.0)	(±2.6)	(±2.6)	(±1.6)
Veterinarian	10.1	12.6	34.6	42.7
Standard Error	(±2.1)	(±2.0)	(±2.9)	(±3.0)
Beef magazine or agricultural journal	34.2	38.8	22.0	5.0
Standard Error	(±2.9)	(±2.9)	(±2.5)	(±1.1)
Producer organization	60.4	28.8	9.5	1.3
Standard Error	(±3.0)	(±2.7)	(±1.8)	(±0.5)
Retail salespeople (feed, vaccines, etc.)	41.7	27.9	25.2	5.2
Standard Error	(±2.9)	(±2.8)	(±2.8)	(±1.3)
Family member	43.1	21.2	21.7	14.0
Standard Error	(±3.0)	(±2.6)	(±2.7)	(±2.1)
Private consultant	79.4	12.5	6.4	1.7
Standard Error	(±2.6)	(±2.0)	(±1.8)	(±0.8)
Other producers	39.8	32.6	23.3	4.3
Standard Error	(±3.1)	(±2.9)	(±2.7)	(±1.1)
Radio/television/newspaper	58.1	27.8	11.1	3.0
Standard Error	(±3.1)	(±2.8)	(±1.8)	(±1.1)
Other source	77.2	15.3	3.8	3.7
Standard Error	(±2.6)	(±2.0)	(±1.2)	(±1.2)

Sources of Animal Health Information

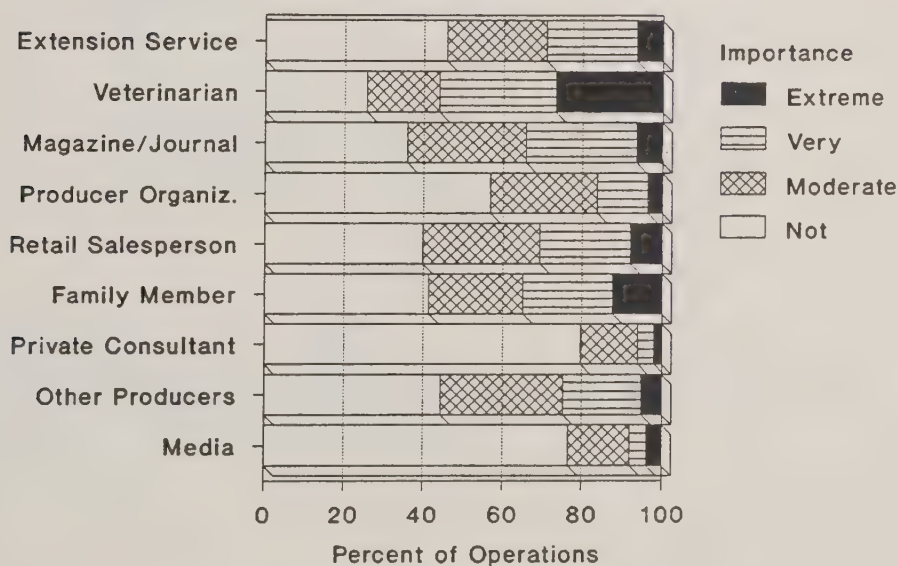


6. Sources of animal health or beef production information (continued)

b. Importance of sources of beef production information:

<u>Source</u>	Percent of Operations by Level of Importance			
	<u>Not</u>	<u>Moderate</u>	<u>Very</u>	<u>Extreme</u>
Cooperative Extension Service or university specialists	45.8	25.0	22.6	6.6
Standard Error	(±3.0)	(±2.6)	(±2.6)	(±1.4)
Veterinarian	25.7	18.2	29.3	26.8
Standard Error	(±2.8)	(±2.2)	(±2.7)	(±2.6)
Beef magazine or agricultural journal	36.0	29.7	27.7	6.6
Standard Error	(±2.9)	(±2.6)	(±2.7)	(±1.3)
Producer organization	56.8	26.8	12.7	3.7
Standard Error	(±3.0)	(±2.7)	(±1.8)	(±1.1)
Retail salespeople (feed, vaccines, etc.)	39.8	29.4	22.8	8.0
Standard Error	(±2.9)	(±2.9)	(±2.8)	(±1.6)
Family member	41.4	23.7	22.4	12.5
Standard Error	(±2.9)	(±2.7)	(±2.6)	(±2.0)
Private consultant	79.6	14.4	4.1	1.9
Standard Error	(±2.5)	(±2.3)	(±1.1)	(±0.9)
Other producers	44.4	30.8	19.6	5.2
Standard Error	(±3.0)	(±2.9)	(±2.4)	(±1.2)
Radio/television/newspaper	59.0	26.2	13.0	1.8
Standard Error	(±3.0)	(±2.8)	(±2.0)	(±0.8)
Other source	76.5	15.5	4.1	3.9
Standard Error	(±2.6)	(±2.3)	(±1.2)	(±1.3)

Sources of Beef Production Information

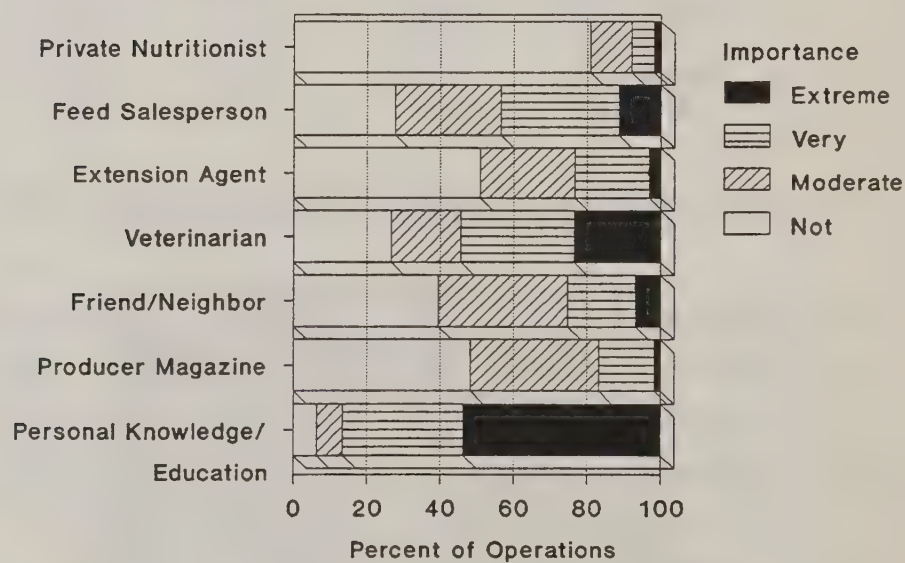


6. Sources of animal health or beef production information (continued)

c. Importance of sources of nutritional information:

Source	Percent of Operations by Level of Importance			
	Not	Moderate	Very	Extremely
Private nutritionist	80.9	11.1	6.2	1.8
Standard Error	(± 2.6)	(± 2.2)	(± 1.4)	(± 0.8)
Feed salesman or feed retailer	27.6	28.8	32.1	11.5
Standard Error	(± 2.7)	(± 2.7)	(± 3.0)	(± 2.1)
Extension agent	50.8	25.8	20.2	3.2
Standard Error	(± 3.0)	(± 2.8)	(± 2.2)	(± 1.1)
Veterinarian	26.6	19.1	30.7	23.6
Standard Error	(± 2.9)	(± 2.3)	(± 2.7)	(± 2.6)
Friend or neighbor	39.5	35.2	18.4	6.9
Standard Error	(± 2.9)	(± 3.0)	(± 2.3)	(± 1.6)
Producer magazine	48.2	35.1	15.0	1.7
Standard Error	(± 3.0)	(± 3.0)	(± 2.0)	(± 0.7)
Personal knowledge/education	6.4	7.0	32.9	53.7
Standard Error	(± 1.5)	(± 1.8)	(± 2.9)	(± 3.1)

Sources of Nutritional Information



d. Nutrition consultants

i. Percent of operations consulting an animal nutritionist in the previous 12 months:

Percent of Operations	Standard Error
10.6	(± 1.7)

Part III:

Beef Cow/Calf Health Management

Beef
CHAPA
Cow/Calf Health & Productivity Audit



Part III: A. Participant Profile¹

1. Descriptive statistics of responding operations

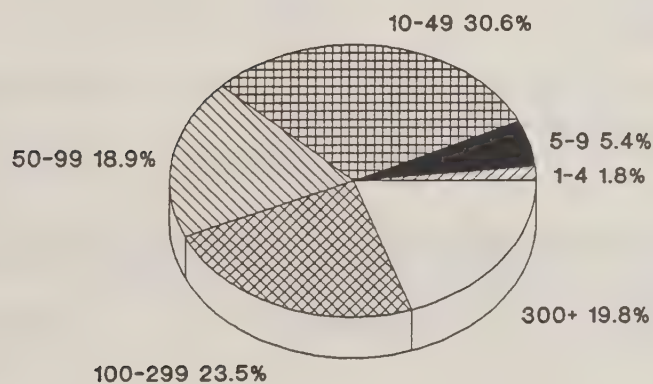
a. Beef cow herd size (as of 1/1/93):

	<u>Number of Operations</u>
1-4	10
5-9	29
10-49	165
50-99	102
100-299	127
300+	<u>107</u>
Total	540

b. Beef cows reported in sample operations:

<u>Number of Cows</u>
174,513

Percent of Responding Operations
by Beef Cow Herd Size
18 States (n = 540)



¹ Actual study sample values; not population estimates.

Part III: B. Population Estimates Based on Data Collected

1. Bull management

- a. Percent of operations (and percent of all cows on these operations) removing bulls from the female breeding herd for at least one estrus cycle (21 days) during 1992 to manipulate calving dates:

<u>Percent of Operations</u>	<u>Standard Error</u>	<u>Percent of Beef Cow Inventory</u>	<u>Standard Error</u>
46.8	(±3.7)	64.5	(±3.2)

- b. Percent of operations removing bulls from female breeding herd by beef cow herd size:

<u>Beef Cow Herd Size</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
1-19	41.5	(±7.6)
20-49	37.0	(±5.7)
50-99	60.9	(±7.3)
100-299	74.4	(±5.9)
300+	92.8	(±3.4)

- c. Percent of operations which purchased, leased, or borrowed bulls in the last 12 months:

<u>Percent of Operations</u>	<u>Standard Error</u>
48.5	(±3.6)

- i. For operations that purchased, leased, or borrowed bulls, percent of these operations (and cows and bulls on these operations) semen testing and/or scrotal measuring these bulls:

<u>Procedure</u>	<u>Percent of Operations</u>	<u>Stand. Error</u>	<u>Percent of Cows</u>	<u>Stand. Error</u>	<u>Percent of Bulls</u>	<u>Stand. Error</u>
Semen tested	47.0	(±5.0)	68.2	(±3.9)	66.5	(±4.5)
Scrotal measured	31.3	(±4.6)	55.4	(±4.6)	53.7	(±5.0)

- ii. For operations that purchased, leased, or borrowed bulls, percent that added bulls older than 18 months or no longer considered virgin:

<u>Percent of Operations</u>	<u>Standard Error</u>
60.6	(±5.0)

- iii. For operations that introduced bulls older than 18 months or no longer considered virgin, percent of operations testing all these bulls for Trichomonas fetus:

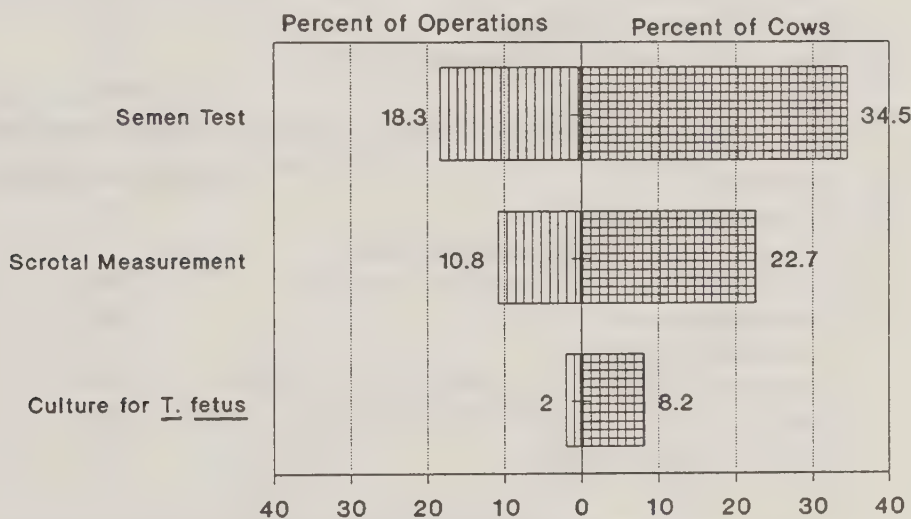
<u>Percent of Operations</u>	<u>Standard Error</u>
4.4	(±2.3)

1. Bull management (continued)

d. Prior to the last breeding season and excluding bulls purchased, leased, or borrowed, percent of operations (and all cows and bulls on these operations) performing the following procedures on bulls:

Procedure	Percent of Operations	Stand. Error	Percent of Cows	Stand. Error	Percent of Bulls	Stand. Error
Semen tested	18.3	(± 2.7)	34.5	(± 3.9)	37.3	(± 4.4)
Scrotal measured	10.8	(± 1.9)	22.7	(± 3.3)	28.1	(± 4.2)
Culture for <u>Trichomonas fetus</u>	2.0	(± 1.1)	8.2	(± 3.0)	7.9	(± 3.0)

% Operations & Cows on These Operations Performing Selected Procedures on Bulls*



*Prior to last breeding season & excluding bulls purchased, leased, or borrowed.

i. Percent of operations testing for Trichomonas fetus (and cows and bulls on those operations) that had one or more positive cultures:

Percent of Operations	Stand. Error	Percent of Cows	Stand. Error	Percent of Bulls	Stand. Error
0.2	(± 0.2)	0.7	(± 0.7)	0.4	(± 0.3)

2. Replacement heifer and cow management

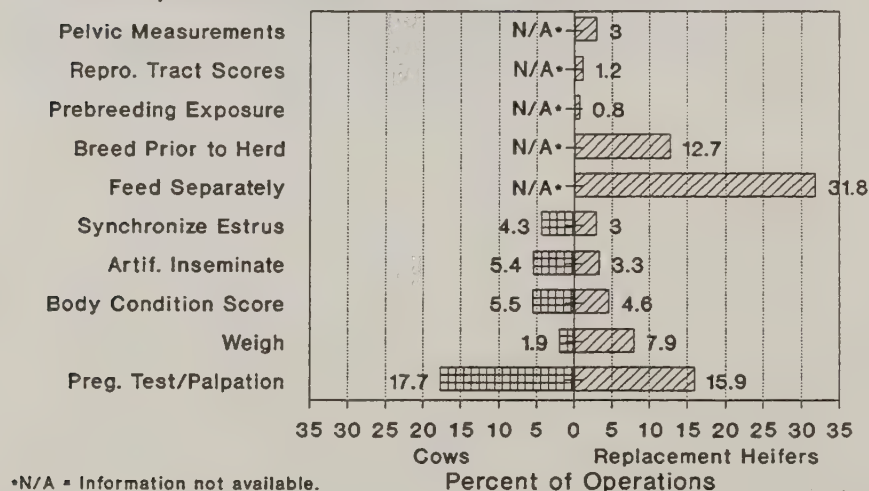
a. Percent of operations using the following reproductive management procedures on replacement heifers in the last 12 months:

<u>Procedure</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
Pelvic measurements	3.0	(± 0.9)
Reproductive tract scores	1.2	(± 0.4)
Weigh	7.9	(± 1.3)
Prebreeding exposure to gomer cow or gomer/teaser bull	0.8	(± 0.4)
Synchronize estrus	3.0	(± 0.7)
Artificially inseminate	3.3	(± 0.7)
Breed replacement heifers at least 2 weeks prior to the rest of the herd	12.7	(± 2.1)
Body condition score	4.6	(± 1.3)
Pregnancy test by palpation	15.9	(± 2.3)
Feed replacement heifers separately from the rest of the herd	31.8	(± 3.2)

b. Percent of operations using the following management procedures on cows in the last 12 months:

<u>Procedure</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
48-hour calf removal	2.8	(± 0.9)
Flushing (feeding cows and heifers more or better quality feed prior to breeding)	13.8	(± 2.5)
Synchronize estrus	4.3	(± 1.5)
Artificially inseminate	5.4	(± 1.2)
Body condition score	5.5	(± 1.2)
Weigh	1.9	(± 0.7)
Pregnancy test by palpation	17.7	(± 2.1)

Percent of Operations Using Selected Management Procedures on Cows & Replacement Heifers in the Last 12 Months



3. Calves weaned in 1992 - average weight and value at weaning

a. Operation average weaning weight and value per head¹:

	<u>Weaning Weight</u>		<u>Value</u>	
	<u>Average</u> <u>Pounds</u>	<u>Standard</u> <u>Error</u>	<u>Average</u> <u>Dollars</u>	<u>Standard</u> <u>Error</u>
Calves	483.2	(±5.8)	419.32	(±5.53)

b. Average weaning weight and value per head:²

	<u>Weaning Weight</u>		<u>Value</u>	
	<u>Average</u> <u>Pounds</u>	<u>Standard</u> <u>Error</u>	<u>Average</u> <u>Dollars</u>	<u>Standard</u> <u>Error</u>
Calves	502.4	(±4.4)	451.15	(±5.15)

4. Breeding-age animals (culls and replacements) sold in 1992

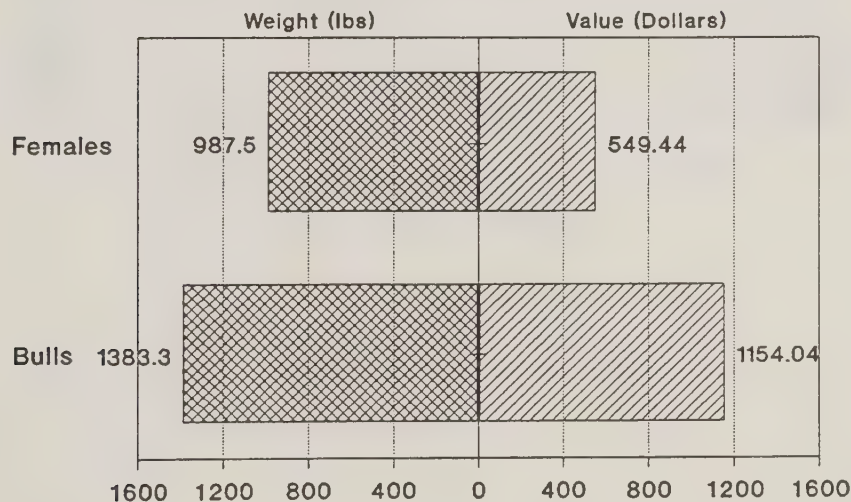
a. Operation average weight and value per head for¹:

	<u>Weight</u>		<u>Value</u>	
	<u>Average</u> <u>Pounds</u>	<u>Standard</u> <u>Error</u>	<u>Average</u> <u>Dollars</u>	<u>Standard</u> <u>Error</u>
Breeding-age females sold	983.0	(±17.7)	491.39	(±11.19)
Breeding-age bulls sold	1,493.7	(±42.0)	967.92	(±28.76)

b. Average weight and value per head for²:

	<u>Weight</u>		<u>Value</u>	
	<u>Average</u> <u>Pounds</u>	<u>Standard</u> <u>Error</u>	<u>Average</u> <u>Dollars</u>	<u>Standard</u> <u>Error</u>
Breeding-age females sold	987.5	(±11.5)	549.44	(±10.95)
Breeding-age bulls sold	1,383.3	(±39.9)	1,154.04	(±52.92)

**Average Weight and Value per Head
of Breeding Age Animals Sold in 1992**



1 Average weight and value was first calculated for each operation, then an average (of the operation averages) was calculated across all operations.

2 Reported number of head, total weight, and total value were summed over all operations, then per head weight and value derived.

4. Breeding-age animals sold in 1992 (continued)

c. For operations that culled one or more breeding-age females during 1992, operation average percent sold for each of the following reasons:

<u>Reason</u>	<u>Average Percent</u>	<u>Standard Error</u>
Pregnancy status (open or aborted)	18.5	(±2.5)
Other reproductive problems (other than open or aborted)	5.7	(±1.9)
Physical unsoundness (injury or lame)	4.2	(±1.4)
Digestive problem	1.7	(±1.1)
Respiratory problem	0.1	(±0.1)
Udder problem	5.2	(±2.2)
Producing poor calves	3.1	(±0.9)
Bad eye(s)	4.6	(±1.7)
Age/bad teeth	35.2	(±3.9)
Temperament	6.0	(±2.0)
Economics (drought, market, herd reduction)	8.0	(±2.1)
Other	<u>7.7</u>	(±1.6)
Total	100.0	

5. Death loss and health concerns

a. Operation average percent of calves affected during the 12 months prior to the study by the following conditions:

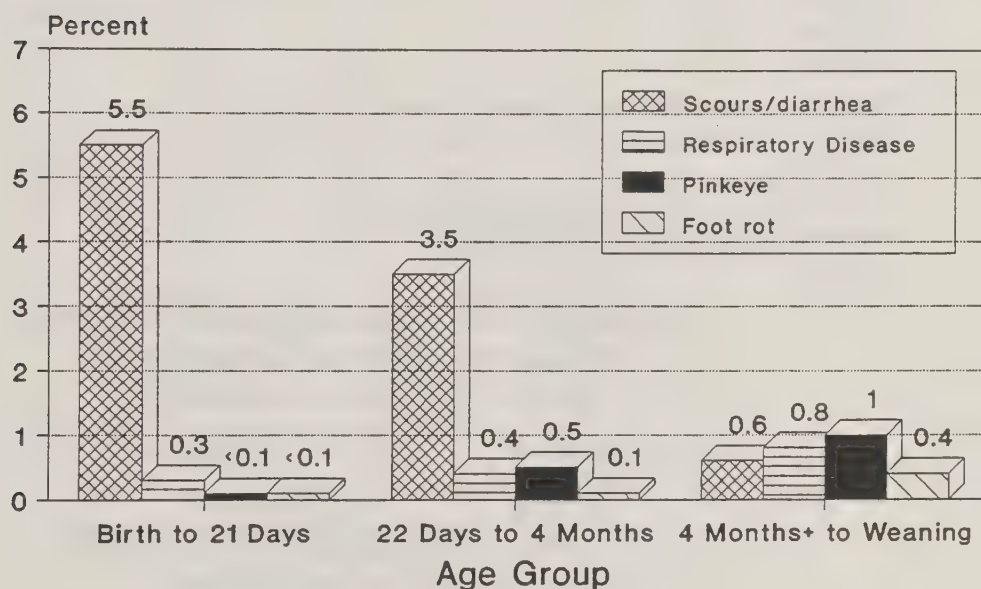
<u>Condition</u>	<u>Birth to</u>		<u>22 Days to</u>		<u>Over 4 Months</u>	
	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
Scours/diarrhea	5.6	(±1.6)	3.0	(±0.8)	0.3	(±0.1)
Respiratory disease	0.2	(±0.1)	0.2	(±0.1)	0.4	(±0.1)
Pinkeye	<0.1	(±0.0)	1.1	(±0.6)	1.6	(±0.5)
Foot rot	<0.1	(±0.0)	0.3	(±0.2)	0.2	(±0.1)

5. Death loss and health concerns (continued)

b. Percent of calves affected during the past 12 months by the following conditions:

Condition	Birth to 21 Days	Standard Error	22 Days to 4 Months	Standard Error	Over 4 Months Until Weaning	Standard Error
	Percent		Percent		Percent	
Scours/diarrhea	5.5	(± 1.3)	3.5	(± 0.6)	0.6	(± 0.3)
Respiratory disease	0.3	(± 0.1)	0.4	(± 0.1)	0.8	(± 0.2)
Pinkeye	<0.1	(± 0.0)	0.5	(± 0.1)	1.0	(± 0.2)
Foot rot	<0.1	(± 0.0)	0.1	(± 0.0)	0.4	(± 0.2)

Percent of Calves Affected by Selected Conditions During the Past 12 Months



5. Death loss and health concerns (continued)

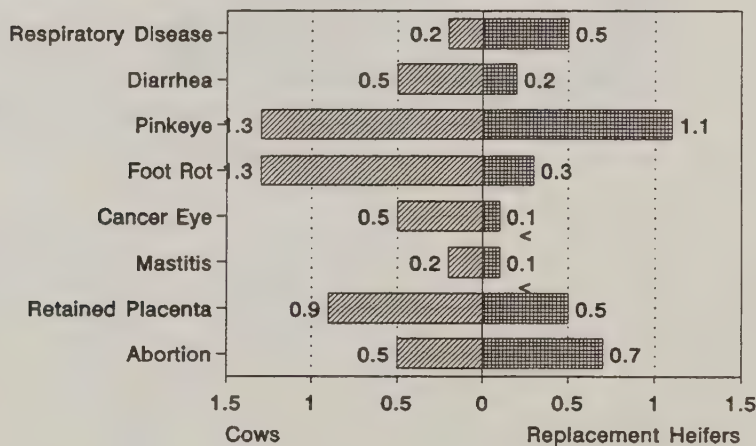
c. Operation average percent of cows and replacement heifers affected during the past 12 months by the following conditions:

<u>Condition</u>	<u>Cows</u>		<u>Replacement Heifers</u>	
	<u>Percent</u>	<u>Stand. Error</u>	<u>Percent</u>	<u>Stand. Error</u>
Respiratory disease	0.2	(± 0.1)	0.4	(± 0.1)
Diarrhea	1.0	(± 0.6)	0.6	(± 0.5)
Pinkeye	2.7	(± 0.9)	1.2	(± 0.5)
Foot rot	1.6	(± 0.6)	0.3	(± 0.2)
Cancer eye	0.6	(± 0.2)	<0.1	(± 0.0)
Mastitis	0.4	(± 0.2)	<0.1	(± 0.0)
Retained placenta or uterine infection	0.8	(± 0.2)	0.1	(± 0.0)
Abortion	0.5	(± 0.2)	0.3	(± 0.1)

d. Percent of cows and replacement heifers affected during the past 12 months by the following conditions:

<u>Condition</u>	<u>Cows</u>		<u>Replacement Heifers</u>	
	<u>Percent</u>	<u>Stand. Error</u>	<u>Percent</u>	<u>Stand. Error</u>
Respiratory disease	0.2	(± 0.1)	0.5	(± 0.2)
Diarrhea	0.5	(± 0.2)	0.2	(± 0.1)
Pinkeye	1.3	(± 0.2)	1.1	(± 0.4)
Foot rot	1.3	(± 0.4)	0.3	(± 0.1)
Cancer eye	0.5	(± 0.1)	<0.1	(± 0.0)
Mastitis	0.2	(± 0.1)	<0.1	(± 0.0)
Retained placenta or uterine infection	0.9	(± 0.1)	0.5	(± 0.2)
Abortion	0.5	(± 0.1)	0.7	(± 0.2)

**Percent of Cows and Replacement Heifers
Affected by Selected Conditions
During the Past 12 Months**



e. Calf death loss during 1992 (calves weighing less than 500 pounds died or lost) as a percent of calf crop: Percent of Calf Crop 4.4 Standard Error (± 0.3)

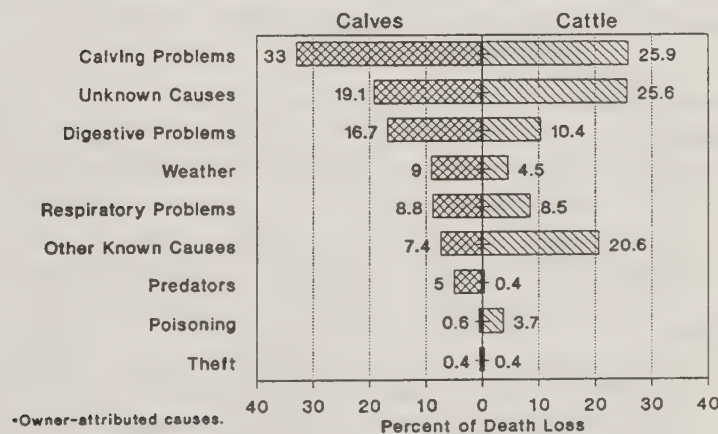
f. Cattle deaths during 1992 (cattle weighing 500 pounds or more died/lost) as a percent of total inventory: Percent of Cattle Inventory 1.0 Standard Error (± 0.1)

5. Death loss and health concerns (continued)

g. Percent of total animals that died or were lost due to the following:

<u>Perceived Cause</u> ¹	<u>% of Total Calf</u> <u>Death Loss</u>	<u>Stand. Error</u>	<u>% of Total Cattle</u> <u>Death Loss</u>	<u>Stand. Error</u>
Digestive problems (e.g., bloat, scours, parasites)	16.7	(±2.6)	10.4	(±2.7)
Respiratory problems (e.g., pneumonia, shipping fever)	8.8	(±1.4)	8.5	(±2.2)
Weather (e.g., lightning, drowning, chilling)	9.0	(±1.6)	4.5	(±0.9)
Calving problems	33.0	(±2.9)	25.9	(±4.3)
Poisoning (e.g., nitrates, fescue, noxious weeds, feed)	0.6	(±0.3)	3.7	(±1.9)
Predators	5.0	(±1.1)	0.4	(±0.2)
Theft	0.4	(±0.2)	0.4	(±0.2)
Other known causes (e.g., lameness)	7.4	(±1.8)	20.6	(±3.4)
Unknown causes	<u>19.1</u>	(±1.9)	<u>25.6</u>	(±3.6)
Total	100.0		100.0	

Percent of Total Animals That Died or Were Lost Due to Perceived Causes*



h. Calf death loss by cause as a percent of calf crop:

<u>Perceived Cause</u> ¹	<u>Percent of Calf Crop</u>	<u>Standard Error</u>
Digestive problems (e.g., bloat, scours, parasites)	0.7	(±0.1)
Respiratory problems (e.g., pneumonia, shipping fever)	0.4	(±0.1)
Weather (e.g., lightning, drowning, chilling)	0.4	(±0.1)
Calving problems	1.5	(±0.2)
Poisoning (e.g., nitrates, fescue, noxious weeds, feed)	<0.1	(±0.0)
Predators	0.2	(±0.1)
Theft	<0.1	(±0.0)
Other known causes (e.g., lameness)	0.3	(±0.1)
Unknown causes	0.8	(±0.1)

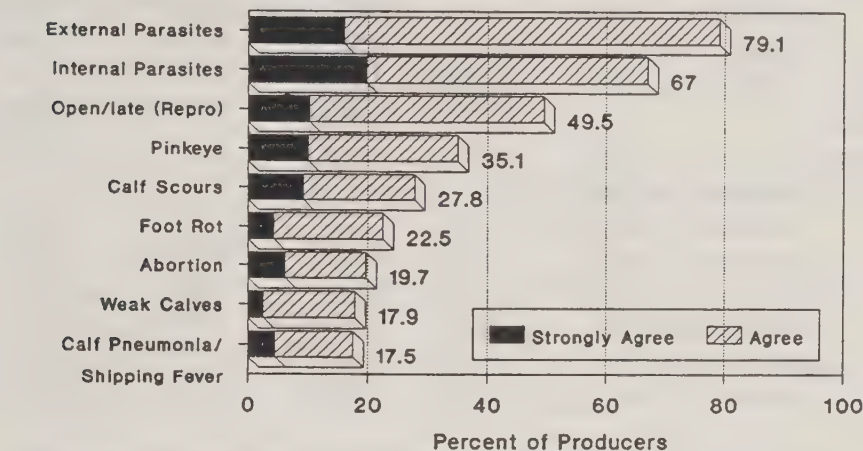
1 Owner-attributed cause of death.

6. Producer opinions on beef health

a. Opinions on health conditions that had a significant economic impact on the cow/calf operation in the last 12 months. Considerations included the cost of prevention, cost of treatment, and lost production:

Conditions	Percent of Operations										Total
	Strongly Agree	Stand. Error	Agree	Stand. Error	Disagree	Stand. Error	Strongly Disagree	Stand. Error	No Opinion	Stand. Error	
Parasites											
Internal	19.8	(±2.9)	47.2	(±3.8)	22.7	(±3.3)	5.8	(±1.9)	4.5	(±1.4)	100.0
External	16.0	(±2.3)	63.1	(±3.4)	13.7	(±2.3)	3.5	(±1.4)	3.7	(±1.4)	100.0
Digestive											
Calf scours	9.2	(±1.9)	18.6	(±3.1)	44.7	(±3.8)	19.6	(±3.3)	7.9	(±2.3)	100.0
Bloat	1.5	(±0.8)	5.2	(±1.2)	52.1	(±3.8)	28.3	(±3.5)	12.9	(±2.7)	100.0
Ulcers (abomasal/stomach)	0.5	(±0.2)	2.4	(±1.0)	45.6	(±3.9)	32.7	(±3.7)	18.8	(±3.0)	100.0
Coccidiosis	2.6	(±0.9)	10.2	(±2.3)	46.0	(±3.8)	23.0	(±3.2)	18.1	(±3.1)	100.0
Reproductive											
Open/late	10.3	(±2.1)	39.2	(±3.9)	31.7	(±3.6)	10.5	(±2.4)	8.3	(±2.4)	100.0
Abortion	6.2	(±1.6)	13.5	(±2.5)	48.4	(±3.9)	20.8	(±3.1)	11.1	(±2.7)	100.0
Weak calves	2.6	(±1.0)	15.3	(±2.8)	55.5	(±4.0)	18.9	(±3.1)	7.7	(±2.1)	100.0
Retained placenta/uterine infect.	2.7	(±1.0)	14.1	(±2.3)	55.6	(±4.0)	17.3	(±3.0)	10.3	(±2.4)	100.0
Respiratory											
Calf pneumonia/shipping fever	4.5	(±1.3)	13.0	(±2.4)	53.8	(±4.0)	19.3	(±3.1)	9.4	(±2.4)	100.0
Cow asthma	1.7	(±1.3)	3.5	(±1.1)	49.8	(±3.9)	23.8	(±3.3)	21.2	(±3.3)	100.0
Plant-related											
Fescue	2.6	(±0.9)	7.4	(±1.6)	50.3	(±3.9)	23.8	(±3.3)	15.9	(±2.8)	100.0
Nitrate	1.5	(±0.6)	2.5	(±0.6)	55.3	(±4.0)	24.5	(±3.4)	16.2	(±2.9)	100.0
Larkspur	0.7	(±0.5)	0.7	(±0.2)	44.9	(±3.8)	26.4	(±3.3)	27.3	(±3.3)	100.0
Other plant-related problems	1.6	(±0.6)	5.3	(±1.7)	46.3	(±3.8)	25.9	(±3.2)	20.9	(±3.0)	100.0
Other											
Pinkeye	10.1	(±2.2)	25.0	(±3.2)	41.4	(±3.7)	17.1	(±3.0)	6.4	(±1.9)	100.0
Foot rot	4.3	(±1.6)	18.2	(±2.6)	51.0	(±4.0)	18.7	(±3.2)	7.8	(±2.1)	100.0
White muscle disease (selenium/vitamin E deficiency)	0.8	(±0.3)	3.2	(±1.0)	42.6	(±3.8)	21.5	(±3.3)	31.9	(±3.6)	100.0
Copper deficiency	0.8	(±0.3)	2.8	(±1.1)	39.0	(±3.7)	19.3	(±2.9)	38.1	(±3.7)	100.0
Anaplasmosis	2.3	(±1.1)	2.9	(±1.1)	38.5	(±3.7)	22.5	(±2.9)	33.8	(±3.5)	100.0
Grass tetany	3.9	(±1.5)	10.0	(±1.7)	50.9	(±4.0)	20.9	(±3.3)	14.3	(±2.7)	100.0

Top Conditions that Producers Agreed Had a Significant Economic Impact on the Cow/Calf Operation During the Past 12 Months*



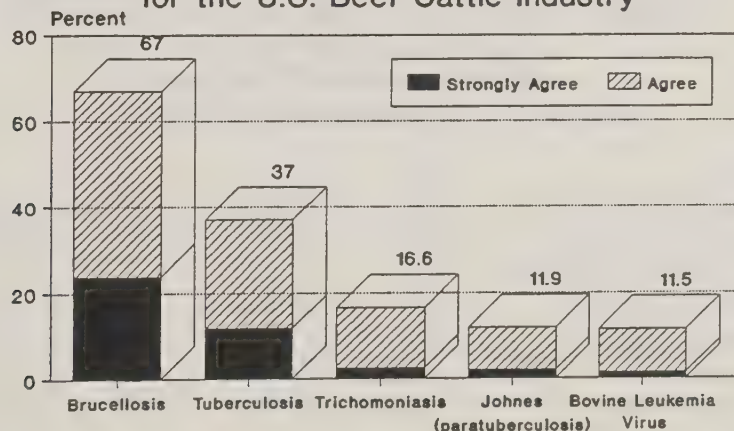
*Considerations included: cost of prevention, cost of treatment, and lost production.

6. Producer opinions on beef health (continued)

b. Opinions on the following conditions that are significant problems for the beef cattle industry of the U.S.:

Conditions	Strongly Agree		Stand. Error		Agree		Stand. Error		Disagree		Stand. Error		Strongly Disagree		Stand. Error		No Opinion	Stand. Error		Total
	Agree				Agree				Disagree				Disagree				Opinion			
Tuberculosis	11.9	(±2.4)			25.1	(±3.1)			21.4	(±2.9)			5.1	(±1.6)			36.5	(±3.6)		100.0
Brucellosis	23.9	(±3.2)			43.1	(±3.7)			15.5	(±2.7)			2.5	(±1.1)			15.0	(±2.8)		100.0
Trichomoniasis	2.5	(±0.6)			14.1	(±2.6)			12.8	(±2.2)			2.9	(±1.1)			67.7	(±3.3)		100.0
Johne's disease (para-tuberculosis)	2.0	(±1.0)			9.9	(±2.3)			13.1	(±2.2)			3.9	(±1.5)			71.1	(±3.2)		100.0
Bovine leukemia virus infection	1.4	(±0.6)			10.1	(±2.2)			14.4	(±2.4)			3.3	(±1.0)			70.8	(±3.0)		100.0

% Producers That Agreed the Following Conditions Are Significant Problems for the U.S. Beef Cattle Industry

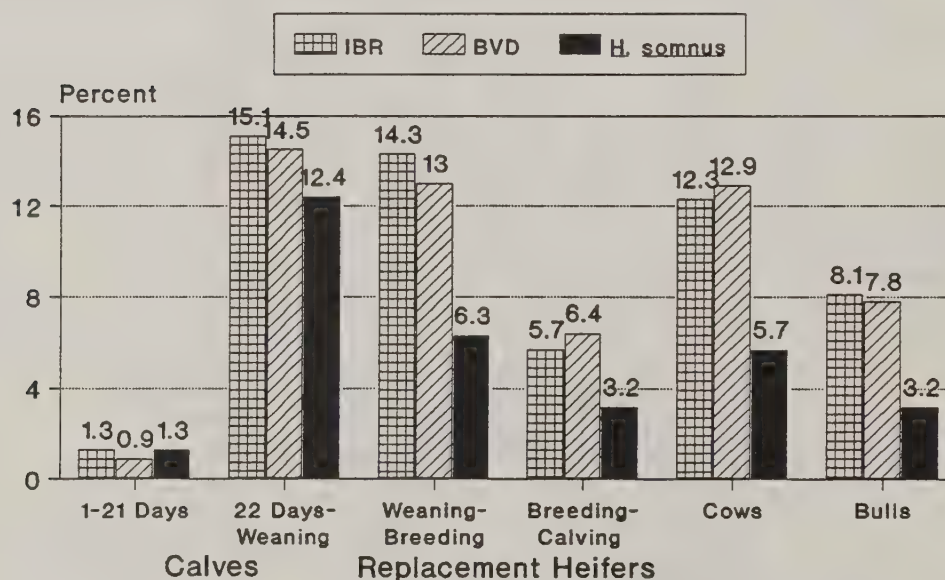


7. Vaccine useage

a. Percent of operations using the following vaccines in the last 12 months:

Vaccine	Percent of Operations					
	Calves		Replacement Heifers		Cows	Bulls
	1 to 21 Days	22 Days to Weaning	Through Weaning After Breed.	Through Breeding		
General:						
IBR (rednose, infectious bovine rhinotracheitis)	1.3	15.1	14.3	5.7	12.3	8.1
Standard Error	(±0.9)	(±1.9)	(±2.2)	(±1.4)	(±2.2)	(±1.7)
BVD (bovine viral diarrhea)	0.9	14.5	13.0	6.4	12.9	7.8
Standard Error	(±0.8)	(±1.8)	(±2.1)	(±1.6)	(±2.3)	(±1.8)
<u>Hemophilus somnus</u>	1.3	12.4	6.3	3.2	5.7	3.2
Standard Error	(±0.8)	(±1.7)	(±1.3)	(±1.3)	(±1.6)	(±1.3)

Percent of Operations Using
General Vaccines by Animal Class



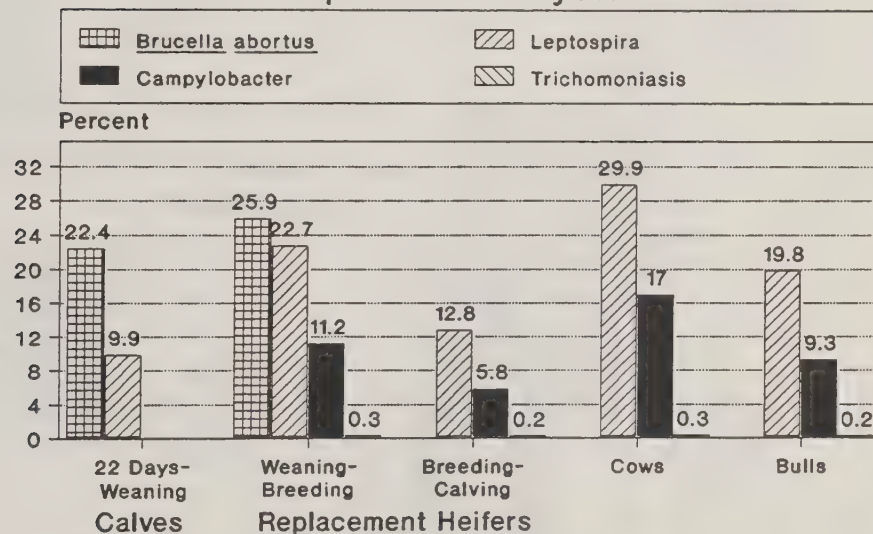
Respiratory:

PI3 (parainfluenza virus)	1.2	14.0	11.3	4.5	8.8	7.0
Standard Error	(±0.9)	(±1.8)	(±1.8)	(±1.4)	(±1.8)	(±1.7)
BRSV (bovine respiratory syncytial virus)	<0.1	10.7	9.4	3.2	6.1	4.5
Standard Error	(±0.0)	(±1.5)	(±1.7)	(±1.1)	(±1.6)	(±1.4)
Pasteurella	0.1	4.4	2.5	1.4	1.9	1.6
Standard Error	(±0.1)	(±1.2)	(±0.6)	(±0.9)	(±1.0)	(±0.9)

7. Vaccine usage (continued)

Vaccine	Percent of Operations					
	Calves		Replacement Heifers		Cows	Bulls
	1 to 21 Days	22 Days to Weaning	Through Weaning After Breed. Breeding	Through Calving		
Reproductive:						
<u>Brucella abortus</u>	NA ¹	22.4	25.9	NA ¹	NA ¹	NA ¹
Standard Error	NA ¹	(±2.3)	(±2.9)	NA ¹	NA ¹	NA ¹
<u>Leptospira</u>	NA ¹	9.9	22.7	12.8	29.9	19.8
Standard Error	NA ¹	(±2.3)	(±3.1)	(±2.2)	(±3.3)	(±3.0)
<u>Campylobacter (vibrio)</u>	NA ¹	NA ¹	11.2	5.8	17.0	9.3
Standard Error	NA ¹	NA ¹	(±2.0)	(±1.1)	(±2.3)	(±1.8)
<u>Trichomoniasis</u>	NA ¹	NA ¹	0.3	0.2	0.3	0.2
Standard Error	NA ¹	NA ¹	(±0.2)	(±0.1)	(±0.1)	(±0.1)

Percent of Operations Using the
Following Vaccines by Animal Class
Reproductive System

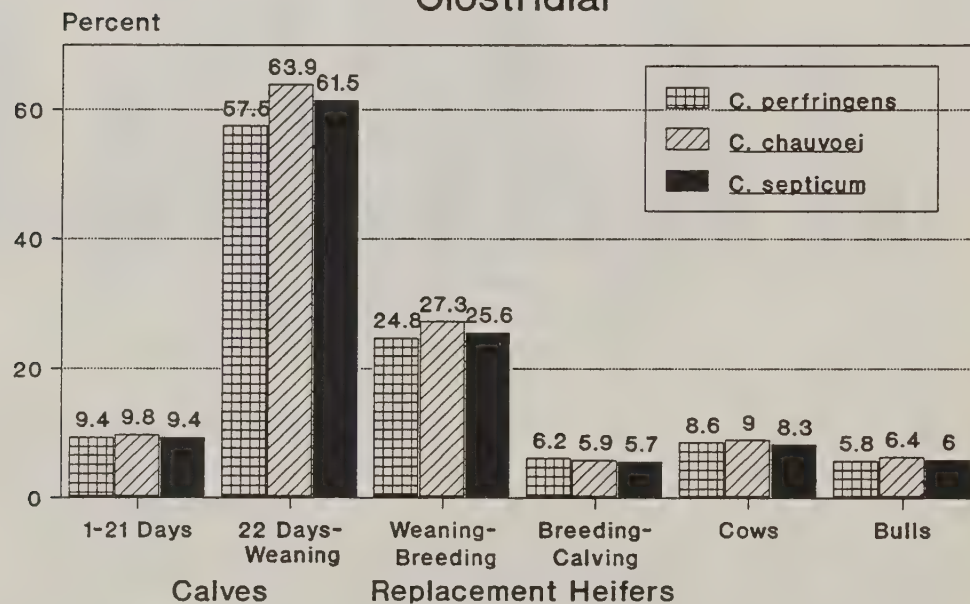


1 NA: Not applicable.

7. Vaccine usage (continued)

Vaccine	Calves		Percent of Operations		Cows	Bulls
	1 to 21 Days	22 Days to Weaning	Replacement Heifers			
			Through Breeding	Through Weaning After Breed. Calving		
Clostridial:						
<u>C. perfringens</u> C and D (enterotoxemia, overeating)	9.4	57.5	24.8	6.2	8.6	5.8
Standard Error	(±2.3)	(±3.5)	(±3.1)	(±1.6)	(±2.0)	(±1.9)
<u>C. chauvoei</u> (blackleg)	9.8	63.9	27.3	5.9	9.0	6.4
Standard Error	(±2.3)	(±3.4)	(±3.1)	(±1.5)	(±2.1)	(±2.0)
<u>C. septicum</u> (malignant edema)	9.4	61.5	25.6	5.7	8.3	6.0
Standard Error	(±2.3)	(±3.4)	(±3.2)	(±1.5)	(±2.1)	(±1.9)
<u>C. sordeli</u>	8.1	55.2	22.8	5.4	8.3	6.0
Standard Error	(±2.2)	(±3.4)	(±2.9)	(±1.5)	(±2.1)	(±1.9)
<u>C. hemolyticum</u> (redwater)	4.7	36.8	18.0	4.7	5.3	3.7
Standard Error	(±1.6)	(±3.3)	(±2.6)	(±1.5)	(±1.6)	(±1.5)
<u>C. novyi</u> (black disease)	8.9	55.5	22.3	5.7	8.3	6.0
Standard Error	(±2.3)	(±3.5)	(±2.9)	(±1.5)	(±2.1)	(±1.9)
<u>C. tetani</u> (tetanus)	5.4	27.9	16.0	4.1	3.4	2.1
Standard Error	(±1.9)	(±3.2)	(±2.8)	(±1.5)	(±1.2)	(±1.1)

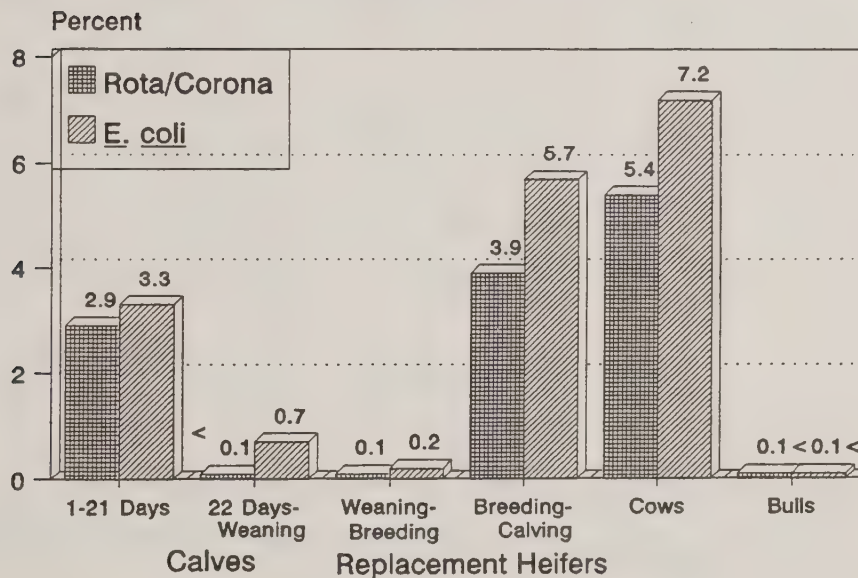
Percent of Operations Using the
Following Vaccines by Animal Class
Clostridial



7. Vaccine usage (continued)

Vaccine	Percent of Operations					
	Calves		Replacement Heifers		Cows	Bulls
	1 to 21 Days	22 Days to Weaning	Weaning After Breed. Through Breeding	Through Calving		
Digestive:						
Rota/corona	2.9	<0.1	0.1	3.9	5.4	<0.1
Standard Error	(±1.6)	(±0.0)	(±0.1)	(±1.2)	(±1.3)	(±0.0)
<u>E. coli</u>	3.3	0.7	0.2	5.7	7.2	<0.1
Standard Error	(±1.6)	(±0.4)	(±0.1)	(±1.5)	(±1.6)	(±0.0)
Salmonella	0.1	<0.1	<0.1	0.3	0.4	<0.1
Standard Error	(±0.1)	(±0.0)	(±0.0)	(±0.1)	(±0.2)	(±0.0)

Percent of Operations Using the Following Vaccines by Animal Class Digestive System



Other:						
Anaplasmosis	NA ¹	0.1	1.3	0.2	1.4	1.5
Standard Error	NA ¹	(±0.1)	(±1.0)	(±0.1)	(±1.0)	(±1.0)
<u>Moraxella bovis</u> (pinkeye)	NA ¹	11.0	5.8	3.2	5.3	3.7
Standard Error	NA ¹	(±2.1)	(±1.6)	(±1.2)	(±1.5)	(±1.2)
Wart virus	<0.1	0.3	0.7	<0.1	<0.1	<0.1
Standard Error	(±0.0)	(±0.2)	(±0.4)	(±0.0)	(±0.0)	(±0.0)

1 NA: Not applicable.

Send us your comments!

The National Animal Health Monitoring System would like to receive input from readers on the information presented in this report. Contact:

Center for Epidemiology and Animal Health
USDA:APHIS:VS, Attn. NAHMS
555 South Howes, Suite 200
Fort Collins, Colorado 80521
(303) 490-7800

CHAPA Results

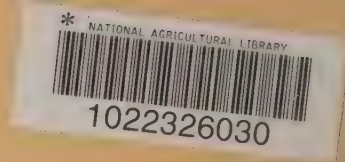
Results of the Beef Cow/Calf Health and Productivity Audit (CHAPA) are available in the following formats:

- Part 1: Beef Cow/Calf Herd Management Practices in the United States (7/93)
- Branding Practices in Beef Cow/Calf Herds (Interpretive summary, 7/93)
- Injection Sites in U.S. Beef Cow/Calf Herds (Interpretive summary, 7/93)
- Part II: Beef Cow/Calf Reproductive and Nutritional Management Practices (1/94)
- Part III: Beef Cow/Calf Health and and Health Management (1/94)
- Part IV: Beef Breeding Management (3/94)
- Animal Identification (Interpretive summary, 3/94)
- Results of Cryptosporidia and Giardia Evaluation in Beef Calves (Interpretive summary, 3/94)
- Information Sources for Beef Cow/Calf Producers (Interpretive summary, 3/94)

Additional interpretive summaries will be produced and distributed as they become available.



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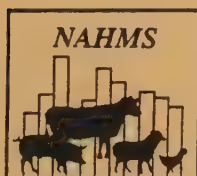
Part IV: Beef Cow/Calf Breeding Management



Beef

CHAPA

Cow/Calf Health & Productivity Audit



March 1994

Acknowledgements

This report has been prepared from material received and analyzed by the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS).

The Beef Cow/Calf Health and Productivity Audit was a cooperative effort between State and Federal animal health officials, university researchers, and extension personnel. We want to thank the State and Federal Veterinary Medical Officers (VMO's) who visited the farms and collected the data for their hard work and dedication to the National Animal Health Monitoring System (NAHMS).

The roles of the producer, Area Veterinarian in Charge (AVIC), NAHMS Coordinator, Veterinary Medical Officer (VMO), Animal Health Technician (AHT), and enumerators from the National Agricultural Statistics Service (NASS) were critical in providing quality data for this report. All participants are to be commended for their efforts, particularly the producers whose voluntary efforts made the study possible.



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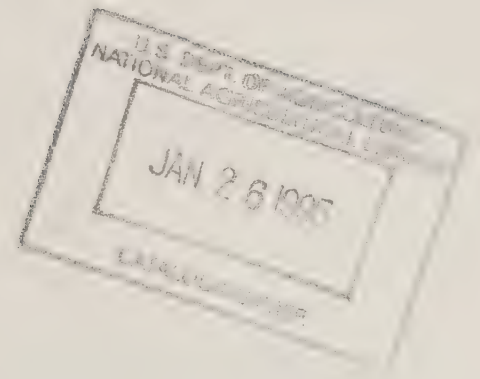
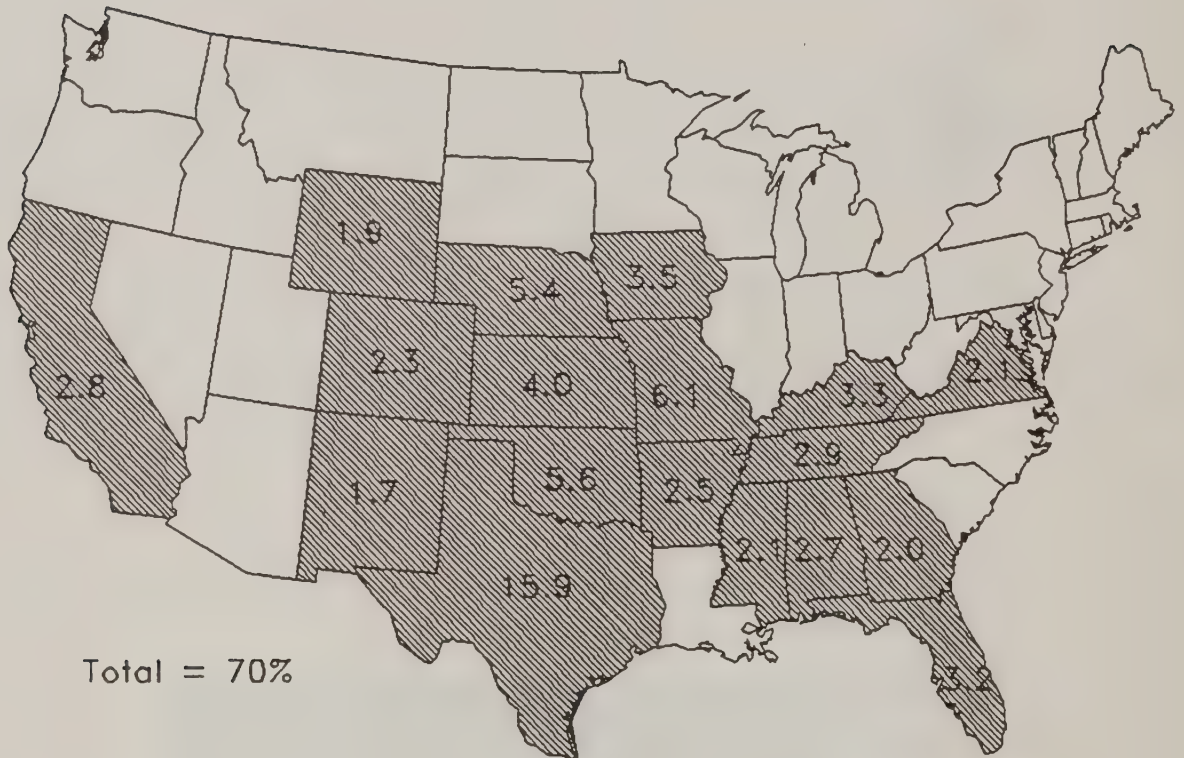


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**States Participating In Data Collection for this Report
and Percent of U.S. Cow Inventory, January 1, 1992**



Introduction

As part of the National Animal Health Monitoring System (NAHMS), USDA:APHIS:Veterinary Services conducted a National study of beef production designed to provide both participants and the industry with information on animal health, productivity, and management practices of cow/calf producers. The National Agricultural Statistics Service (NASS) collaborated with USDA:APHIS:VS to select a producer sample that was statistically designed to provide inferences about the nation's cow/calf population.

NASS enumerators contacted producers in the 48 continental States by computer-assisted telephone interview and asked them a series of questions about management practices and the health of their animals. The 3,397 cow/calf producers participating represented all U.S. cow/calf operations. Results of NASS telephone contacts for the Beef Cow/Calf Health and Productivity Audit were released in August 1993 as *Part I: Beef Cow/Calf Herd Management Practices in the United States*.

Parts II and III were released in January of 1994. NASS enumerators collected data for *Part II: Nutritional & Reproductive Management Practices*, from November 9 through December 4, 1992, by personal interview from a subset of producers responding to the first NASS contact. Producers participating in this portion of the study were required to have five or more beef

CHAPA Descriptive Results

Part I: Beef Cow/Calf Herd Management Practices in the U.S.

- States surveyed: 48
- Target population: all U.S. beef cow/calf producers
- Participating producers: 3,397
- Data collection period: 9/29-10/9/92
- Date distributed: August 1993

Part II: Beef Cow/Calf Reproductive and Nutritional Management Practices

- States surveyed: 18
 - Target population: beef cow/calf producers with 5 or more beef cows and with 50 percent or more of 1992 calves born from January through June
 - Participating producers: 799
 - Data collection period: 11/9-12/4/93
 - Date distributed: January 1994
-

cows (or beef replacement heifers) and 50 percent or more of the 1992 calf crop born between January 1 and June 30, 1992. Data collection was limited to 18 of the largest cow/calf-producing States (facing page). The 18 States with producers participating represented 70 percent of the U.S. beef cow inventory.

The target population represented:

- 49 percent of beef cows in the U.S.
- 42 percent of beef operations in the U.S.
- 71 percent of beef cows on predominantly spring calving beef operations in the U.S. with 5 or more beef cows (or replacement heifers).
- 75 percent of predominantly spring calving beef operations in the U.S. with 5 or more beef cows (or replacement heifers).

Data for *Part III: Beef Cow/Calf Health & Health Management* were collected from 540 producers from the subset described previously. Federal and State Veterinary Officers (VMO's) conducted personal interviews with the producers between January 4 and February 28, 1993.

Data for *Part IV: Beef Cow/Calf Breeding Management* were collected from 523 producers continuing in the program. VMO's conducted personal interviews with producers from July 1-30, 1993.

Descriptive tables in this report are divided into two parts:

- The **Participant Profile** contains descriptive results from only the subset of operations that completed the personal interview.
- **Population Estimates Based on Data Collected** are population estimates, such as averages and proportions which have been weighted to represent the cow/calf population. Most of the estimates are provided with a measure of variability called the standard error and denoted by (\pm). Chances are 95 out of 100 that the interval created by the estimate plus or minus two standard errors will contain the true population value. In the example at right, an estimate of 7.5 with a standard error of ± 1.0 results in a range of 5.5 to 9.5 (two times the standard error above and below the estimate).

Additional Beef CHAPA National results will be released as they are completed. If you have questions about this report contact NAHMS at:

Centers for Epidemiology and Animal Health
USDA:APHIS:VS, Attn. NAHMS
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Fort Collins, Colorado 80521
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CHAPA Descriptive Results

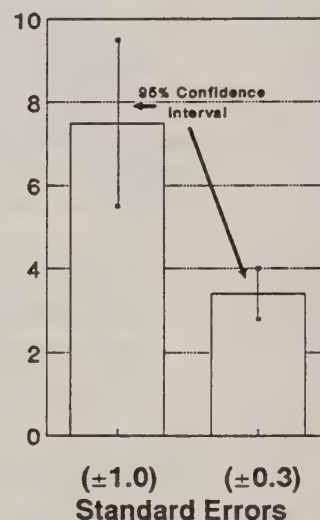
Part III: Beef Cow/Calf Health and Health Management

- States surveyed: 18
- Target population: Same as Part II
- Participating producers: 540
- Data collection period: 1/4-2/28/93
- Date distributed: January 1994

Part IV: Beef Cow/Calf Breeding Management

- States surveyed: 18
- Target population: Same as Parts II & III
- Participating producers: 523
- Data collection period: 7/1-7/30/93
- Distribution date: March 1994

Examples of 95% Confidence Intervals



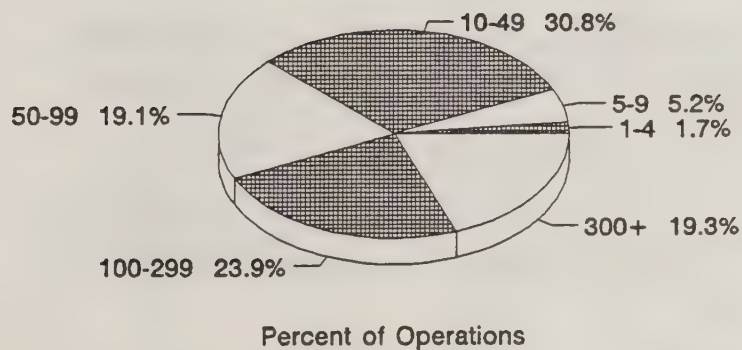
Part IV: Participant Profile¹

1. Descriptive statistics of responding operations

a. Beef cow herd size (as of 1/1/93):

<u>Beef Cow Herd Size</u>	<u>Number of Operations</u>
1-4	9
5-9	27
10-49	161
50-99	100
100-299	125
300+	<u>101</u>
Total	523

Percent of Responding Operations
Beef Cow Herd Size



¹ Actual study values; not population estimates.

Part IV: Population Estimates

1. Nutrition

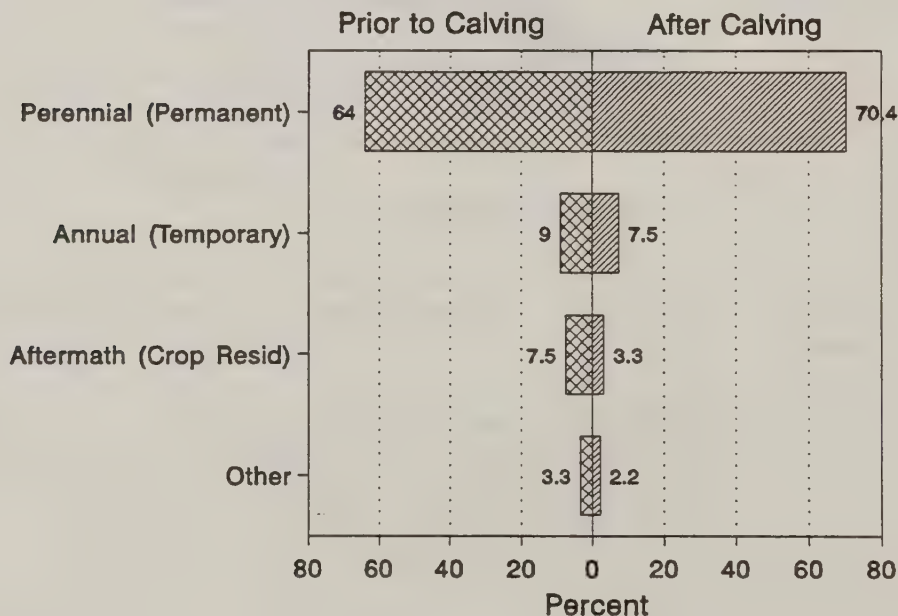
a. Percent of operations allowing females to graze perennial, annuals, or aftermath pasture during the 60 days prior to calving in 1993:

<u>Pasture Type</u>	Replacement Heifers		Cows	
	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
Perennial (permanent) pasture	64.0	(± 3.5)	88.8	(± 1.7)
Annual (temporary) pasture	9.0	(± 2.2)	12.1	(± 2.6)
Aftermath (crop residues)	7.5	(± 1.5)	10.8	(± 1.5)
Other	3.3	(± 1.3)	2.0	(± 0.8)

b. Percent of operations allowing females to graze perennial, annual, or aftermath pasture during the 60 days after calving in 1993:

<u>Pasture Type</u>	Replacement Heifers		Cows	
	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
Perennial (permanent) pasture	70.4	(± 3.5)	97.1	(± 0.8)
Annual (temporary) pasture	7.5	(± 1.9)	10.6	(± 2.4)
Aftermath (crop residues)	3.3	(± 1.2)	3.8	(± 1.3)
Other	2.2	(± 0.8)	2.2	(± 0.8)

% Operations Allowing Replacement Heifers to Graze by Pasture Type During 60 Days:

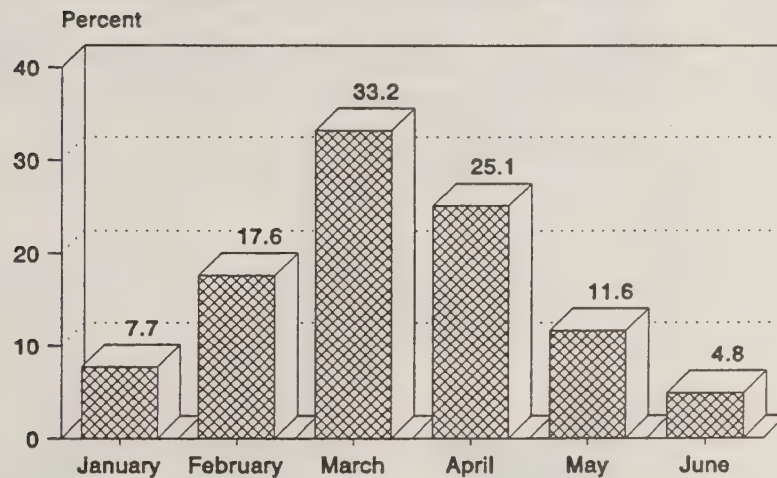


2. Calving and health management

a. Calves born during the first 6 months of 1993, percent by month:

<u>Month</u>	<u>Percent</u>	<u>Standard Error</u>
January	7.7	(± 0.9)
February	17.6	(± 1.3)
March	33.2	(± 1.7)
April	25.1	(± 1.4)
May	11.6	(± 1.0)
June	4.8	(± 0.5)
Total	100.0	

**Calves Born During First
6 Months of 1993, Percent by Month**



b. Percent of operations that finished calving by June 30:

<u>Percent</u>	<u>Standard Error</u>
36.5	(± 3.7)

c. For those operations that finished calving by June 30, percent of these operations that finished calving in:

<u>Month</u>	<u>Percent of Operations</u>	<u>Standard Error</u>
January	0.0	(± 0.0)
February	3.0	(± 2.5)
March	7.5	(± 3.0)
April	12.7	(± 3.4)
May	32.7	(± 6.0)
June	44.1	(± 6.2)
Total	100.0	

2. Calving and health management (continued)

d. Calf mortality as a percent of those born during the first 6 months of 1993

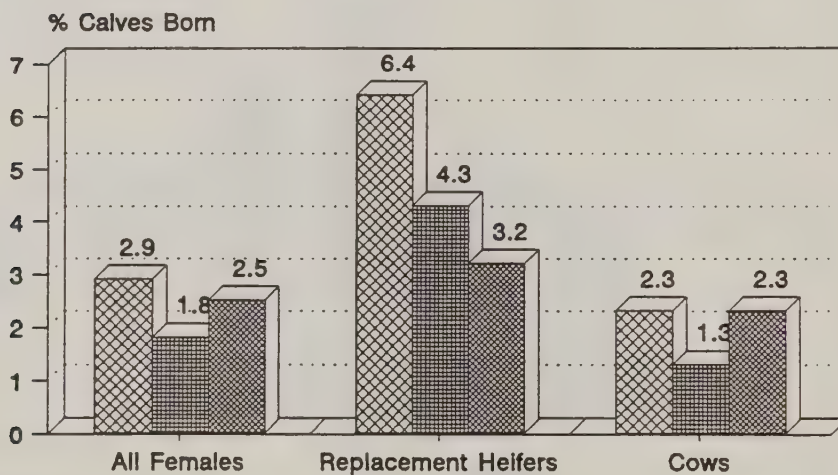
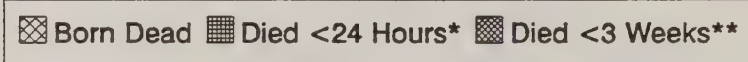
i. Deaths by age:

	<u>All Females</u>		<u>Replacement Heifers</u>		<u>Cows</u>	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
Born dead	2.9	(±0.3)	6.4	(±0.9)	2.3	(±0.3)
Died within 24 hours of age ¹	1.8	(±0.2)	4.3	(±0.7)	1.3	(±0.1)
Died 24 hours - 3 weeks of age ²	2.5	(±0.3)	3.2	(±0.5)	2.3	(±0.3)

ii. Cumulative deaths by age:

All prior to 24 hours ³	4.7	(±--)	10.7	(±--)	3.6	(±--)
All prior to 3 weeks ⁴	7.2	(±--)	13.9	(±--)	5.9	(±--)

Calf Mortality During First 6 Months 1993



* Number died does not include those born dead.

** Number died does not include those born dead and died prior to 24 hours.

1 Number died does not include those born dead.

2 Number died does not include those born dead and died prior to 24 hours.

3 Includes those born dead.

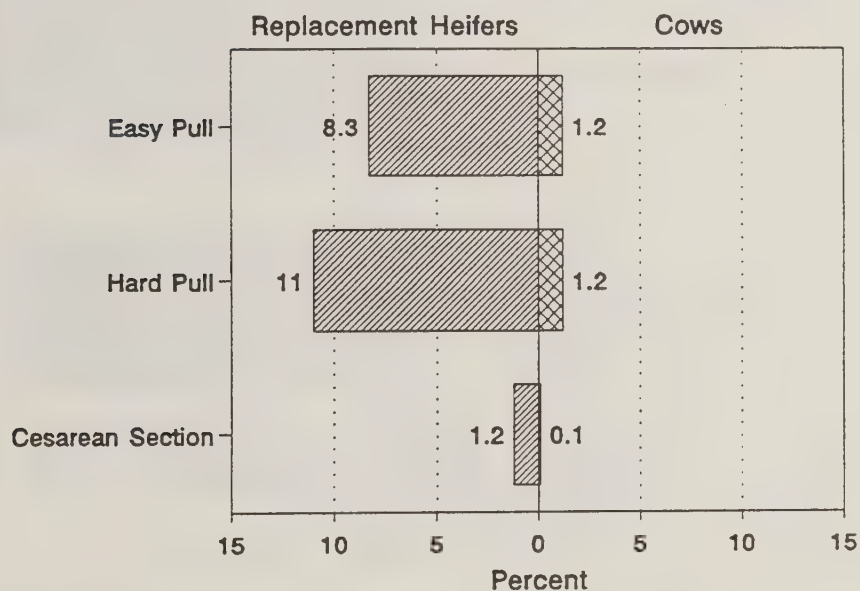
4 Includes those born dead and died prior to 24 hours.

2. Calving and health management (continued)

e. Percent of females calving in the first 6 months of 1993 requiring various levels of assistance during calving:

	Replacement Heifers		Cows	
	Percent	Standard Error	Percent	Standard Error
No assistance	79.5	(± 2.7)	97.5	(± 0.2)
Easy pull	8.3	(± 1.2)	1.2	(± 0.1)
Hard pull	11.0	(± 2.2)	1.2	(± 0.2)
Cesarean section	1.2	(± 0.4)	0.1	(± 0.1)
Total	100.0		100.0	

Percent of Females Requiring Assistance During Calving



3. Breeding management

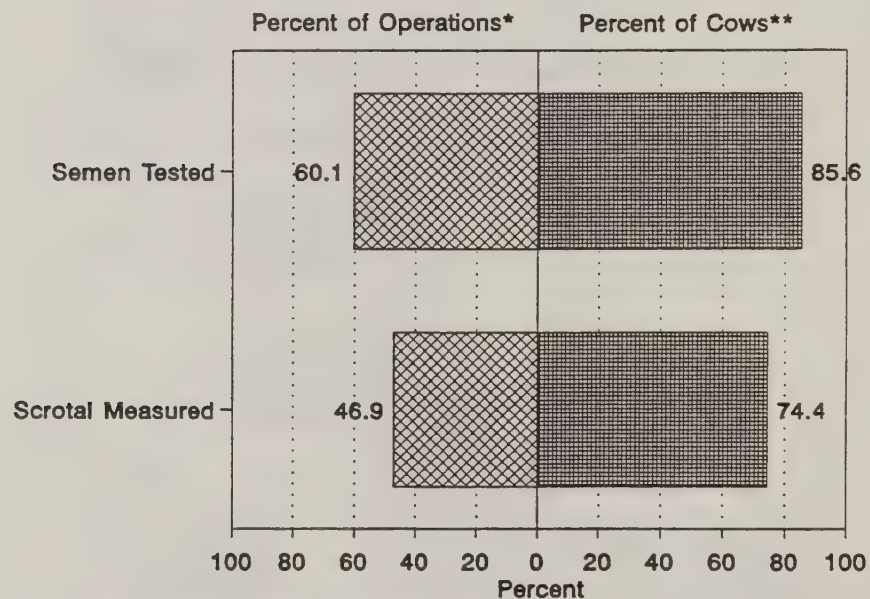
- a. Percent of operations that purchased, leased, or borrowed bulls in the preceding 6 months:

<u>Percent</u>	<u>Standard Error</u>
27.0	(±3.3)

- i. For operations that purchased, leased, or borrowed bulls, percent of those operations (and cows and bulls on these operations) semen testing and/or scrotal measuring these bulls:

<u>Procedure</u>	<u>Percent of Operations</u>	<u>Stand. Error</u>	<u>Percent of Cows</u>	<u>Stand. Error</u>	<u>Percent of Bulls</u>	<u>Stand. Error</u>
Semen tested	60.1	(±7.1)	85.6	(±3.4)	80.2	(±4.6)
Scrotal measured	46.9	(±7.0)	74.4	(±5.0)	65.9	(±6.3)

Semen Testing and Scrotal Measuring



*For operations that purchased, leased, or borrowed bulls.

**Percent of cows on these operations as a percent of all cows.

- ii. For operations that purchased, leased, or borrowed bulls, percent that added bulls older than 18 months of age or no longer considered virgin:

<u>Percent</u>	<u>Standard Error</u>
44.8	(±7.0)

- iii. For operations that introduced bulls older than 18 months of age or no longer considered virgin, percent of operations testing all bulls for
- Trichomonas fetus
- :

<u>Percent</u>	<u>Standard Error</u>
13.4	(±6.7)

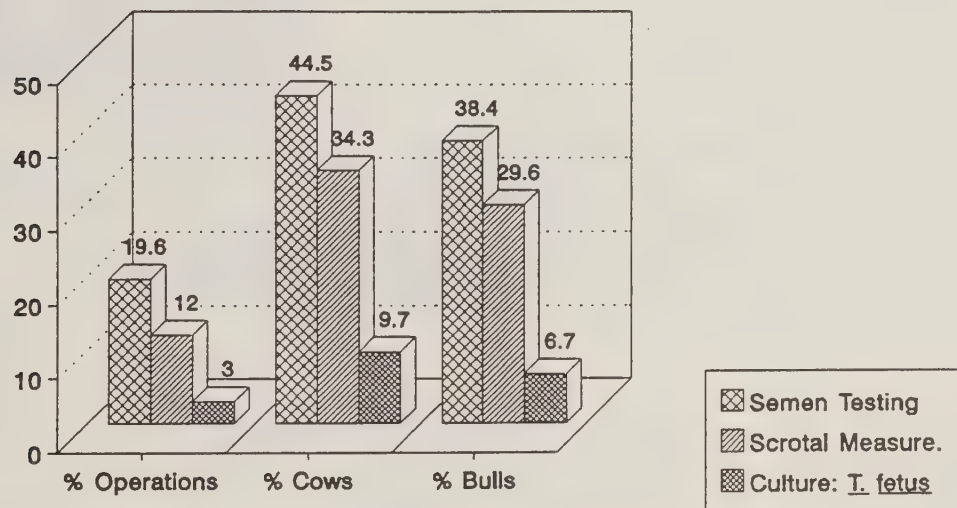
3. Breeding management (continued)

b. Procedures performed on bulls prior to the last breeding (excluding bulls purchased, leased, or borrowed)

i. Percent of operations (and cows and bulls on these operations) performing the following procedures:

<u>Procedure</u>	<u>Percent of Operations</u>	<u>Stand. Error</u>	<u>Percent of Cows</u>	<u>Stand. Error</u>	<u>Percent of Bulls</u>	<u>Stand. Error</u>
Semen tested	19.6	(± 2.9)	44.5	(± 4.8)	38.4	(± 4.4)
Scrotal measurement	12.0	(± 2.4)	34.3	(± 5.0)	29.6	(± 4.4)
Culture for <u>Trichomonas fetus</u>	3.0	(± 1.3)	9.7	(± 4.3)	6.7	(± 2.8)

**% Operations (& Cows & Bulls on These Operations)
Performing Selected Procedures**



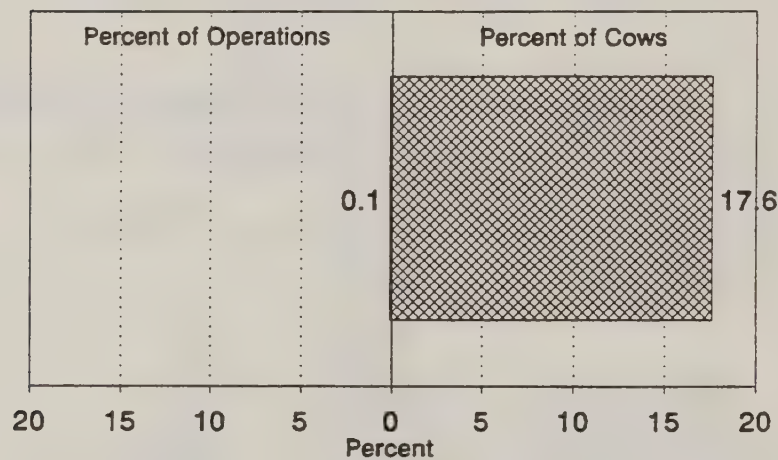
*Prior to last breeding & excluding bulls purchased, leased, or borrowed.

3. Breeding management (continued)

ii. Percent of operations testing for Trichomonas fetus (and cows and bulls on these operations) that had one or more positive cultures:

<u>Percent of Operations</u>	<u>Stand. Error</u>	<u>Percent of Cows</u>	<u>Stand. Error</u>	<u>Percent of Bulls</u>	<u>Stand. Error</u>
0.1	(± 0.1)	17.6	(± 14.0)	14.1	(± 10.3)

**% Operations* & Cows on These Operations
with 1 or More Positive Cultures for
Trichomonas fetus**



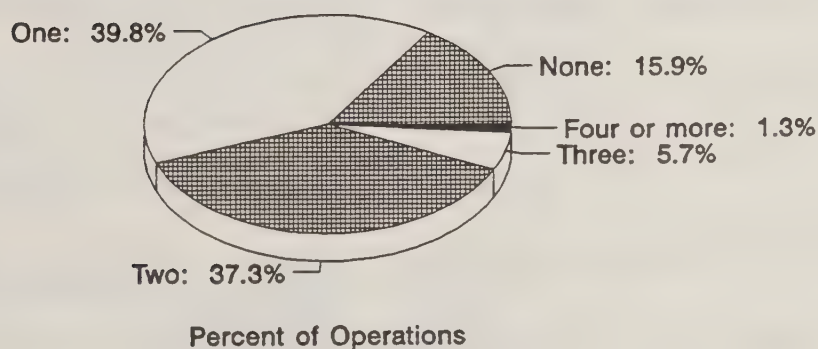
*Percent of operations testing for Trichomonas fetus.

3. Breeding management (continued)

c. Percent of operations (and cows on these operations) by number of times per year the cows are processed (such as vaccination, deworming, or palpation):

<u>Times per Year</u>	<u>Percent of Operations</u>	<u>Standard Error</u>	<u>Percent of Cows</u>	<u>Standard Error</u>
0	15.9	(± 3.1)	7.6	(± 1.7)
1	39.8	(± 3.6)	31.7	(± 3.1)
2	37.3	(± 3.8)	44.5	(± 3.8)
3	5.7	(± 1.6)	13.6	(± 3.2)
4 or more	1.3	(± 0.4)	2.6	(± 0.7)
Total	100.0		100.0	

Percent of Operations by Number of Times Cows Are Processed per Year



4. Weak calf syndrome: Deaths in first 6 months of 1993

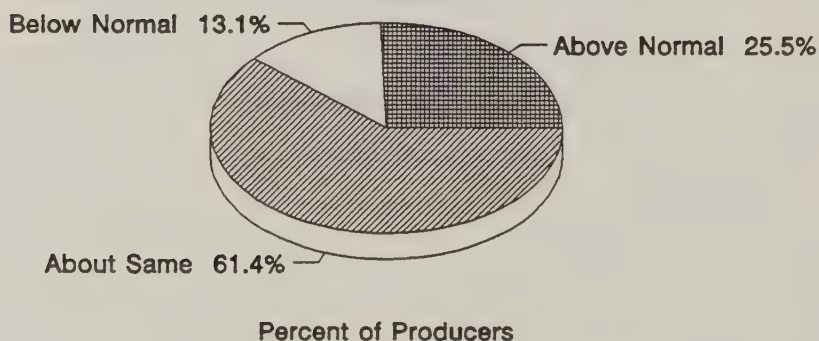
a. Number of calves that died in first 3 days of life as a percent of all calves born alive by beef cow herd size:

<u>Beef Cow Herd Size</u>	<u>Percent</u>	<u>Standard Error</u>
1-19	2.9	(± 0.8)
20-49	2.3	(± 0.5)
50-99	2.5	(± 0.4)
100-299	2.8	(± 0.5)
300+	<u>1.7</u>	(<u>± 0.3</u>)
Total	2.5	(± 0.2)

b. Producer opinions of spring 1993 death losses compared with expected losses in a normal year:

<u>Level</u>	<u>Percent</u>	<u>Standard Error</u>
Above expected	25.5	(± 3.6)
Less than expected	13.1	(± 2.5)
About the same as expected	<u>61.4</u>	(± 3.7)
Total	100.0	

Producers' Opinions of Spring 1993 Death Losses Compared With Normal Year



c. Percent of producers who perceived that their herd experienced weak calf syndrome in spring 1993:

<u>Percent</u>	<u>Standard Error</u>
6.4	(± 1.5)

Center for Epidemiology & Animal Health (CAHM)/Center for Emerging Issues (CEI)

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555 South Howes, Suite 200
Fort Collins, Colorado 80521
(303) 490-7800
Electronic mail: NAHMS-INFO@aphis.ag.gov

Informational materials available from CAHM and CEI are listed below. Please enter the number of copies of each document requested and fill in your name and address. Allow 3-4 weeks for delivery.

Name: _____ Company/Business: _____
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Telephone: _____

For office use only:

Date Received: _____

Date Mailed: _____

Food Safety Issues *(items marked with a ♣ are items addressing, or contain topics regarding, food safety)*

National Beef Study, 1993-1994



- ☐ **Part I: Beef Cow/Calf Herd Practices in the United States, 8/93** (24-page tabular summary with graphic presentations of data collected on health, productivity, and management practices from producers in 48 States through the Beef Cow/Calf Health and Productivity Audit [CHAPA])
- ☐ **Part II: Beef Cow/Calf Reproductive & Nutritional Management Practices/
Part III: Beef Cow/Calf Health & Health Management, 1/94** (46-page tabular summary of CHAPA results with graphic presentations)
- ☐ **Part IV: Beef Cow/Calf Breeding Management*, 3/94** (12-page tabular summary of CHAPA results with graphic presentations)
- ☐ **Fact Sheets*, 3/94** (discussions and graphic presentations of the NDHEP results) Topics include:
♣ Cryptosporidium/Giardia and animal identification.

National Dairy Heifer Evaluation Project (NDHEP), 1991-1992



- ☐ **Dairy Herd Management Practices Focusing on Preweaned Heifers, 7/93** (36-page tabular summary of data on preweaned heifer management collected during the NDHEP)
- ☐ **Dairy Heifer Morbidity, Mortality, and Health Management Focusing on Preweaned Heifers, 2/94** (part II of the NDHEP results is a 22-page tabular summary with selected graphic presentations of data collected)
- ☐ **Fact Sheets, 7/93** (discussions and graphic presentations of the NDHEP results) Topics include: colostrum management, record keeping & information sources, calf feeds & weaning practices, housing, contract heifer raising, biosecurity measures, maternity hygiene, vaccination practices, nutritional supplements & feed additives, transfer of maternal immunity to calves, and ♣ Cryptosporidium.
- ☐ **Fact Sheets, 2/94** (discussions and graphic presentations of the NDHEP results) Topics include:
♣ Escherichia coli 0157:H7, ♣ Salmonella, blood selenium levels, and growth of dairy heifers.
- ☐ ♣ **Bulk Tank Milk Somatic Cell Counts and Your Milk Quality Assurance Program, 1/94** (fact sheet presenting an assessment of associations between somatic cell count and completion of the Milk and Dairy Beef Quality Assurance Program [MDBQAP])

Emerging Issues

- ☐ ♣ **E. coli 0157:H7 - Issues and Ramifications*, 3/94** (80-page report focuses on the role of cattle as a source of E. coli 0157:H7 in food products: what is known about 0157 in cattle and the production of ground beef, and discusses directions for the future management of 0157)
- ☐ ♣ **Executive Summary, E. coli 0157:H7 - Issues and Ramifications*, 3/94** (11-page summary of above report)



Continued on other side...

*Allow 6-8 weeks for delivery.

- ☐ Assessment of Risk Factors for Mycobacterium bovis in the United States, 11/92 (150-page report)

Bovine Spongiform Encephalopathy (BSE) Risk Assessment

- ☐ Bovine Spongiform Encephalopathy: Implications for the United States, 12/92 (25-page report containing updates on BSE in Great Britain, risk factors and surveillance in the U.S., and a quantitative assessment of the possible role of nonambulatory cattle in transmissible spongiform encephalopathy in the U.S.)
- ☐ Quantitative Risk Assessment of BSE in the United States (15-page report)
Qualitative Analysis of Risk Assessment in the United States (25-page report)
- ☐ United States Rendering and Feed-Manufacturing Industries: Evaluation of Practices with Risk Potential for Bovine Spongiform Encephalopathy, 11/92 (22-page report)
- ☐ Technical Report on BSE, February 1991, USDA:APHIS (fact sheet summarizing the quantitative and qualitative risk analysis of BSE in the United States)
- ☐ BSE Video, 7/92 (video contains four segments: two short videos of dairy cows showing clinical signs; a BBC television show, "Horizon;" and a film developed by the British Ministry of Agriculture. For check-out only.)
- ☐ BSE: Sample Overview Presentation, 7/92 (slide set and script providing an overview of the BSE investigation in Great Britain and a risk assessment of BSE in the U.S. For check-out only.)

Quarterly Report

DxMonitor Animal Health Report (trends of confirmed disease diagnoses and animal health data collected from veterinary diagnostic laboratories) ♣ Food safety topics may be presented in individual issues.



- ☐ I would like to receive a copy of the DxMonitor. (Note: After reviewing the DxMonitor, you may request to receive this report on a quarterly basis.)
- ☐ Introduction to the Veterinary Diagnostic Laboratory Reporting System, 10/92 (informational brochure about the VDLRS.)
- ☐ Report of the 1991 DxMonitor Committee Meeting, 8/92 (report of a 1991 meeting of industry representatives convened to provide oversight and direct input for the growth and development of the VDLRS)

National Swine Survey, 1989-1990

- ☐ Morbidity/Mortality and Health Management of Swine in the United States, 11/91 (40-page tabular summary of the data collected during the swine project.) ♣ Water quality.
- ☐ Fact Sheets, 11/91 (discussions and graphic presentations of the results of the swine project)
Topics covered: biosecurity measures, preweaning morbidity & mortality, sow productivity, total confinement and farrowing facilities, preventive practices, consultants, and ♣ water quality.
- ☐ NSS: Sample Presentation of Results, 11/91 (slide set and script providing an overview of the National Swine Survey results. For check-out only.)
- ☐ Swine Slaughter Surveillance Program, 5/92 (fact sheet presenting results of slaughter checks from a Minnesota/NAHMS feasibility study.)



Organizational Information

- ☐ ♣ Bibliography (list of published technical articles from CAHM/CEI, 1983 - present)
- ☐ NAHMS Management Review Group Report (report of a 1992 meeting of USDA representatives convened to provide oversight and direct input for the growth and development of the NAHMS program.)



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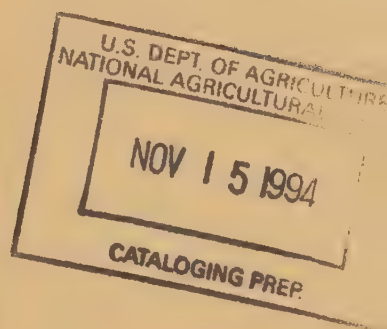
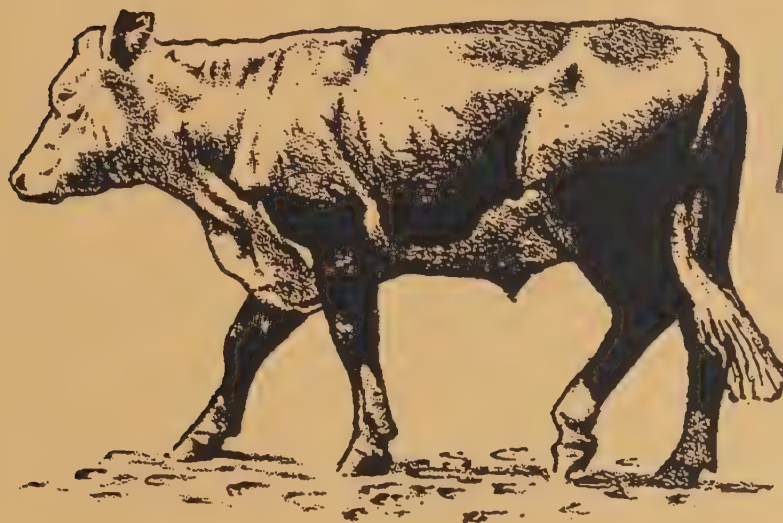
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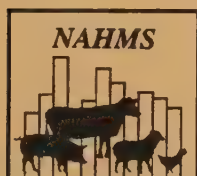
Veterinary
Services

Part V: Quality Assurance Profile



Beef CHAPA

Cow/Calf Health & Productivity Audit



August 1994



Acknowledgements

This report has been prepared from material received and analyzed by the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS).

The Beef Cow/Calf Health and Productivity Audit was a cooperative effort between State and Federal agricultural statisticians, animal health officials, university researchers, and extension personnel. We want to thank the State and Federal Veterinary Medical Officers (VMO's) who visited the farms and collected the data for their hard work and dedication to the National Animal Health Monitoring System (NAHMS).

The roles of the producer, Area Veterinarian in Charge (AVIC), NAHMS Coordinator, Veterinary Medical Officer (VMO), Animal Health Technician (AHT), and enumerators from the National Agricultural Statistics Service (NASS) were critical in providing quality data for this report. All participants are to be commended for their efforts, particularly the producers whose voluntary efforts made the study possible.

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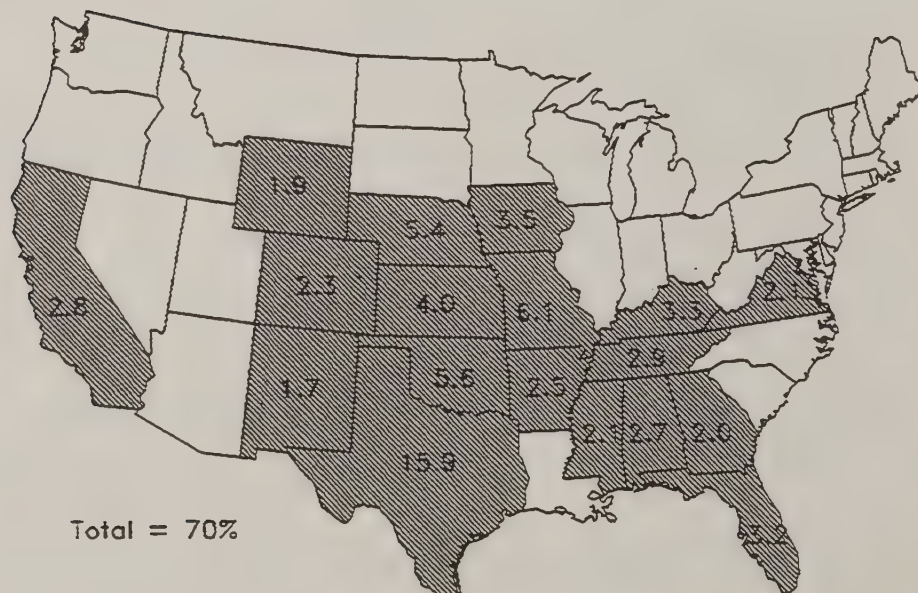
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**States Participating in Data Collection for this Report
and Percent of U.S. Cow Inventory, January 1, 1992**



Introduction

As part of the National Animal Health Monitoring System (NAHMS), USDA:APHIS:Veterinary Services conducted a National study of beef production designed to provide both participants and the industry with information on animal health, productivity, and management practices of cow/calf producers. The National Agricultural Statistics Service (NASS) collaborated with USDA:APHIS:VS to select a producer sample that was statistically designed to provide inferences about the nation's cow/calf population.

NASS enumerators contacted producers in the 48 continental States by computer-assisted telephone interview and asked a series of questions about management practices and the health of their animals. The 3,397 cow/calf producers participating represented all U.S. cow/calf operations. Results of NASS telephone contacts for the Beef Cow/Calf Health and Productivity Audit were released in August 1993 as *Part I: Beef Cow/Calf Herd Management Practices in the United States*.

Parts II and III were released in January of 1994. NASS enumerators collected data for *Part II: Nutritional & Reproductive Management Practices*, from November 9 through December 4, 1992, by personal interview from a subset of producers responding to the first NASS contact. Selective criteria were used to identify a new target population. Producers participating in this portion of the study were required to have five or more beef cows (or beef replacement heifers) at the start of the study and 50 percent or more of the 1992 calf crop born between

January 1 and June 30, 1992. Data collection was limited to 18 of the largest cow/calf-producing States (facing page). These 18 States had 70 percent of the U.S. beef cow inventory.

CHAPA Descriptive Results

Part I: Beef Cow/Calf Herd Management Practices in the U.S.

- States surveyed: 48
- Target population: all U.S. beef cow/calf producers
- Participating producers: 3,397
- Data collection period: 9/29-10/9/92
- Date distributed: August 1993

Part II: Beef Cow/Calf Reproductive and Nutritional Management Practices

- States surveyed: 18
 - Target population: beef cow/calf producers with 5 or more beef cows and with 50 percent or more of 1992 calves born from January through June
 - Participating producers: 799
 - Data collection period: 11/9-12/4/93
 - Date distributed: January 1994
-

The target population (spring calvers with 5 or more beef cows or replacement heifers) represented:

- 71 percent of beef cows on predominantly spring calving beef operations in the U.S. with 5 or more beef cows (or replacement heifers).
- 75 percent of predominantly spring calving beef operations in the U.S. with 5 or more beef cows (or replacement heifers).
- 49 percent of beef cows in the U.S.
- 42 percent of beef operations in the U.S.

Data for *Part III: Beef Cow/Calf Health & Health Management* were collected from 540 producers

from the subset described previously. Federal and State Veterinary Officers (VMO's) conducted personal interviews with the producers between January 4 and February 28, 1993.

Data for *Part IV: Beef Cow/Calf Breeding Management* were collected from 523 producers continuing in the program. VMO's conducted personal interviews with producers from July 1-30, 1993.

Part V: Quality Assurance Profile data were collected from 495 producers who completed the entire program. VMO's conducted personal interviews with producers from January 1 through 31, 1994.

Descriptive tables in this report are divided into two parts:

- The **Participant Profile** contains descriptive results from only the subset of operations that completed the personal interview.
- **Population Estimates Based on Data Collected** are population estimates, such as averages and proportions which have been weighted to represent the cow/calf population. Most of the estimates are provided with a measure of variability called the standard error and denoted by (\pm). Chances are 95 out of 100 that the interval created by the estimate plus or minus two standard errors will contain the true population value. In the example at right, an estimate of 7.5 with a standard error of ± 1.0 results in a range of 5.5 to 9.5 (two times the standard error above and below the estimate).

Additional Beef CHAPA National results will be released as they are completed. If you have questions about this report contact NAHMS at:

Centers for Epidemiology and Animal Health
 USDA:APHIS:VS, Attn. NAHMS
 555 South Howes, Suite 200
 Fort Collins, Colorado 80521
 (303) 490-7800
 Internet: NAHMS-INFO@aphis.ag.gov

CHAPA Descriptive Results

Part III: Beef Cow/Calf Health and Health Management

- States surveyed: 18
- Target population: Same as Part II
- Participating producers: 540
- Data collection period: 1/4-2/28/93
- Date distributed: January 1994

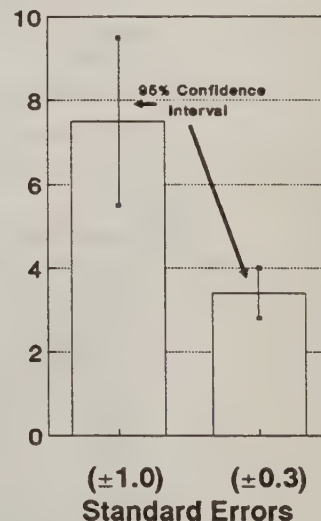
Part IV: Beef Cow/Calf Breeding Management

- States surveyed: 18
- Target population: Same as Parts II & III
- Participating producers: 523
- Data collection period: 7/1-7/30/93
- Distribution date: March 1994

Part V: Quality Assurance Profile

- States surveyed: 18
- Target population: Same as Parts II, III, & IV
- Participating producers: 495
- Data collection period: 1/1-1/31/94
- Distribution date: August 1994

Examples of 95% Confidence Intervals



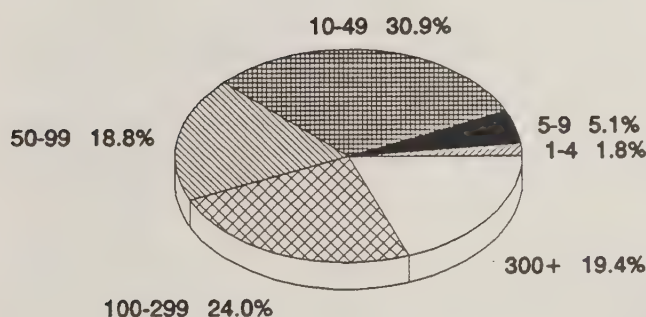
Part V: Participant Profile¹

1. Descriptive statistics of responding operations

a. Beef cow herd size (as of 1/1/93):

<u>Beef Cow Herd Size</u> ²	<u>Number of Operations</u>
1-4	9
5-9	25
10-49	153
50-99	93
100-299	119
300+	<u>96</u>
Total	495

Percent of Responding Operations
by Beef Cow Herd Size in 1993
18 States (n = 495)



1 Actual study values; not population estimates.

2 Post-stratification here is based strictly on number of beef cows. Replacement heifers were not included.

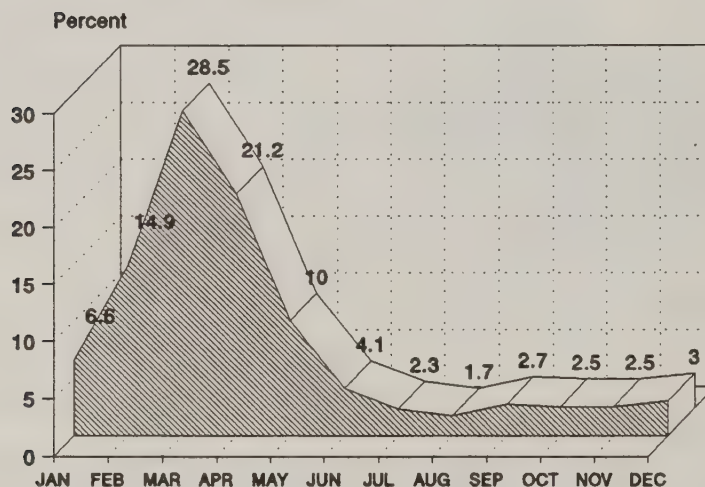
Part V: Population Estimates

1. Monthly calving management

a. Percent of calves born by month during 1993:

<u>Month</u>	<u>Percent</u>	<u>Standard Error</u>
January	6.6	(± 0.8)
February	14.9	(± 1.2)
March	28.5	(± 1.6)
April	21.2	(± 1.3)
May	10.0	(± 0.9)
June	4.1	(± 0.4)
July	2.3	(± 0.3)
August	1.7	(± 0.3)
September	2.7	(± 0.3)
October	2.5	(± 0.3)
November	2.5	(± 0.3)
December	<u>3.0</u>	(± 0.3)
Total	100.0	

Percent of Calves Born by Month During 1993



2. Calves weaned in 1993 - average weight and value at weaning

a. Operation average weaning weight and value per head¹:

	<u>Weaning Weight</u>		<u>Value</u>	
	<u>Average</u> <u>Pounds</u>	<u>Standard</u> <u>Error</u>	<u>Average</u> <u>Dollars</u>	<u>Standard</u> <u>Error</u>
Calves	484.8	(± 9.7)	\$437.16	(± 9.79)

¹ Averages were first calculated for each operation, then an average (of the operation averages) was calculated across all operations.

b. Average weaning weight and value per head ¹ :				
	<u>Weaning Weight</u>		<u>Value</u>	
	Average	Standard	Average	Standard
	<u>Pounds</u>	<u>Error</u>	<u>Dollars</u>	<u>Error</u>
Calves	503.6	(±8.0)	\$467.34	(±7.15)
3. Breeding-age animals (culls and replacements) sold in 1993				
a. Operation average weight and value per head for ² :				
	<u>Weight</u>		<u>Value</u>	
	Average	Standard	Average	Standard
	<u>Pounds</u>	<u>Error</u>	<u>Dollars</u>	<u>Error</u>
Breeding-age females sold	1019.0	(±14.6)	\$515.44	(±12.13)
Breeding-age bulls sold	1578.9	(±54.2)	\$976.60	(±28.41)
b. Average weight and value per head for ¹ :				
	<u>Weight</u>		<u>Value</u>	
	Average	Standard	Average	Standard
	<u>Pounds</u>	<u>Error</u>	<u>Dollars</u>	<u>Error</u>
Breeding-age females sold	1023.5	(±11.8)	\$577.86	(±17.34)
Breeding-age bulls sold	1429.7	(±51.0)	\$1137.06	(±54.01)
c. For operations that culled one or more breeding-age female during 1993, operation average percent sold (and percent of animals sold) for each of the following reasons:				
	<u>Operation</u>		<u>Percent of</u>	
<u>Reason</u>	<u>Average</u>	<u>Standard</u>	<u>Animals</u>	<u>Standard</u>
	<u>Percent</u>	<u>Error</u>	<u>Animals</u>	<u>Error</u>
Pregnancy status (open or aborted)	28.3	(±3.7)	32.7	(±4.7)
Other reproductive problems (other than open or aborted)	7.4	(±2.5)	3.7	(±1.1)
Physical unsoundness (injury or lame)	4.1	(±1.6)	2.1	(±0.4)
Digestive problem	2.2	(±2.0)	0.2	(±0.2)
Respiratory problem	0.1	(±<0.1)	0.1	(±<0.1)
Udder problem	3.4	(±1.3)	1.8	(±0.4)
Producing poor calves	4.9	(±1.5)	5.2	(±1.3)
Bad eye(s)	3.4	(±1.1)	2.7	(±0.6)
Age/bad teeth	26.5	(±3.3)	21.4	(±2.4)
Temperament	3.3	(±1.3)	3.5	(±1.4)
Economics (drought, market, herd reduction)	7.5	(±2.5)	15.2	(±3.3)
Other	<u>8.9</u>	(±2.8)	<u>11.4</u>	(±2.7)
Total	100.0		100.0	

1 Reported number of head, total weight, and total value were summed over all operations, then per head weight and value derived.

2 Averages were first calculated for each operation, then an average (of the operation averages) was calculated across all operations.

4. Disposition of calves weaned July 1-December 31, 1993

a. Operation average percent and percent of calves:

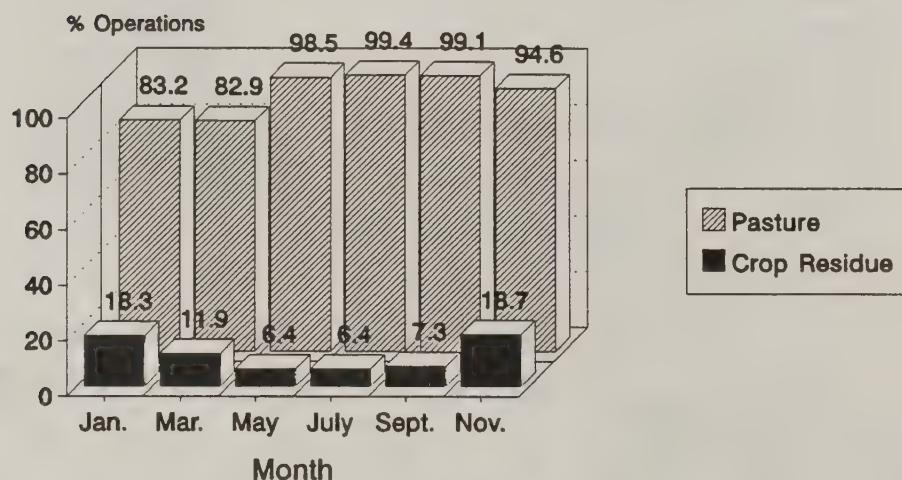
Disposition	Operation Average Percent	Standard Error	Percent of Calves	Standard Error
Sold during 1993	59.2	(±2.9)	44.8	(±3.4)
Kept for replacement	14.3	(±1.3)	17.0	(±1.2)
Kept to graze or feed (stocker, feeder)	21.6	(±2.5)	32.8	(±3.5)
Kept for other purposes	<u>4.9</u>	(±1.4)	<u>5.4</u>	(±1.4)
Total	100.0		100.0	

5. Nutrition

a. Percent of operations providing the cow herd with access to pasture or crop residue by selected month:

Month	Percent of Operations			
	Pasture	Standard Error	Crop Residue	Standard Error
January	83.2	(±2.3)	18.3	(±3.2)
March	82.9	(±2.2)	11.9	(±2.5)
May	98.5	(±0.6)	6.4	(±2.4)
July	99.4	(±0.4)	6.4	(±2.4)
September	99.1	(±0.5)	7.3	(±2.5)
November	94.6	(±0.9)	18.7	(±3.0)

**Cow Herd Access to Pasture and
Crop Residue by Month in 1993**

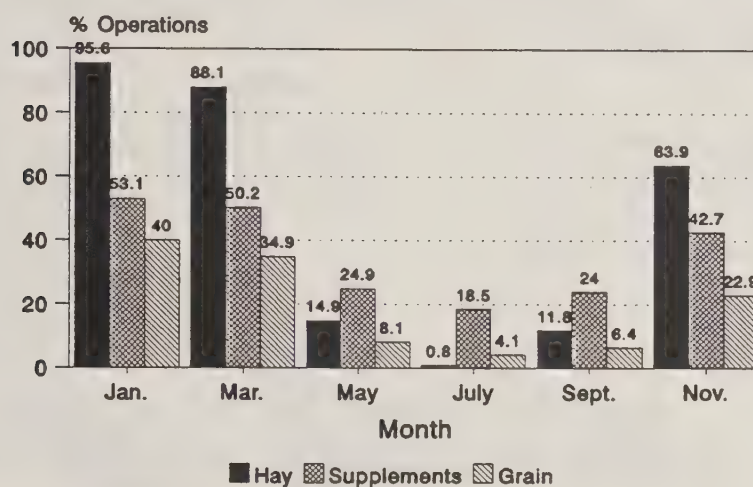


5. Nutrition (continued)

- b. Percent of operations feeding hay, silage, supplements, or grain to the cow herd during 1993 by month:

Month	Standard		Standard		Standard		Standard	
	Hay	Error	Silage	Error	Supplements	Error	Grain	Error
January	95.6	(±1.3)	3.5	(±1.2)	53.1	(±4.0)	40.0	(±3.8)
March	88.1	(±2.5)	3.6	(±1.2)	50.2	(±4.0)	34.9	(±3.7)
May	14.9	(±2.5)	0.9	(±0.3)	24.9	(±3.3)	8.1	(±1.9)
July	0.8	(±0.4)	0.0	(±0.0)	18.5	(±3.0)	4.1	(±1.5)
September	11.8	(±3.1)	0.4	(±0.4)	24.0	(±3.2)	6.4	(±2.1)
November	63.9	(±3.3)	0.1	(±0.1)	42.7	(±3.8)	22.9	(±3.4)

Feeds Fed to Cow Herd by Month in 1993*



*Less than 4% of operations fed silage in any given month.

- c. For operations feeding the following feedstuffs in the indicated month, average pounds fed per head per day to the cow herd during 1993 by month:

Month	Standard		Standard		Standard		Standard	
	Hay	Error	Silage	Error	Supplements	Error	Grain	Error
January	28.4	(±1.3)	25.3	(±2.2)	1.9	(±0.2)	3.4	(±0.3)
March	27.0	(±1.4)	26.3	(±2.1)	1.7	(±0.2)	3.8	(±0.4)
May	19.7	(±1.9)	28.2	(±5.8)	1.2	(±0.2)	4.1	(±1.1)
July	22.3	(±5.8)	0.0	(±0.0)	0.9	(±0.2)	4.4	(±1.9)
September	12.4	(±1.8)	15.0	(±0.0)	1.4	(±0.3)	3.0	(±1.2)
November	22.7	(±1.9)	34.4	(±0.7)	1.6	(±0.2)	4.3	(±1.2)

- d. Percent of operations (and percent of cows on these operations grazing cattle in the previous 12 months:

Grazing Options	Percent of Operations		Percent of Cows	
	Standard Error	Standard Error	Standard Error	Standard Error
On public land	5.7	(±2.0)	14.4	(±3.1)
In a grazing association	1.6	(±1.3)	2.0	(±1.0)

5. Nutrition (continued)

e. Percent of operations with cow herd access to the following water sources by selected months:

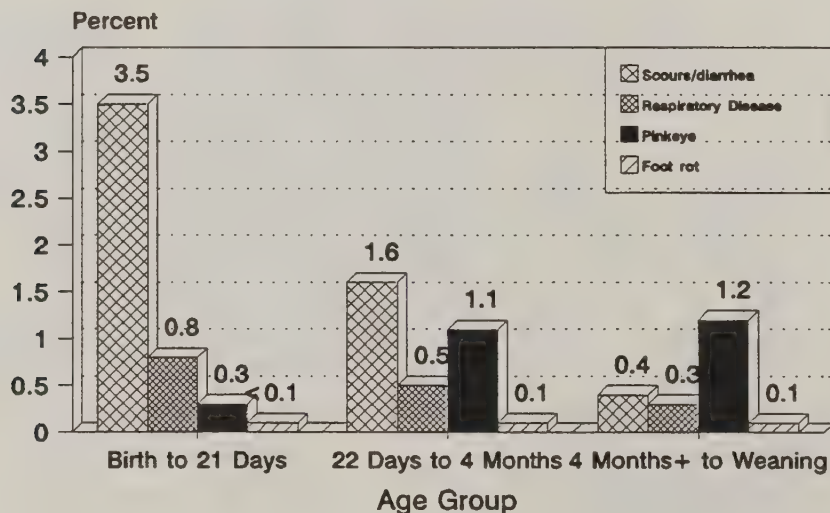
Water Source	Percent of Operations							
	January		April		July		October	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
Tank or trough	42.6	(±3.8)	36.6	(±3.7)	38.2	(±3.9)	36.2	(±3.7)
Automatic waterer	15.4	(±2.6)	13.9	(±2.4)	9.9	(±2.1)	12.4	(±2.6)
River/stream	45.5	(±4.0)	47.9	(±4.1)	46.6	(±4.0)	48.1	(±4.0)
Pond/lake	54.7	(±3.8)	58.9	(±3.7)	62.8	(±3.7)	61.9	(±3.7)
Other	4.7	(±1.9)	3.9	(±1.8)	4.6	(±1.9)	5.4	(±1.9)

6. Death loss and health concerns

a. Operation average percent of calves affected during the 12 months prior to the study by the following conditions¹:

Condition	Birth to 21 Days		22 Days to 4 Months		Over 4 Months Until Weaning	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
Scours/diarrhea	3.5	(±0.6)	1.6	(±0.6)	0.4	(±0.3)
Respiratory disease	0.8	(±0.4)	0.5	(±0.2)	0.3	(±0.1)
Pinkeye	0.3	(±0.3)	1.1	(±0.3)	1.2	(±0.3)
Foot rot	<0.1	(±<0.1)	0.1	(±0.1)	0.1	(±<0.1)

Operation Average Percent of Calves Affected by Selected Conditions During the Past 12 Months, 1993



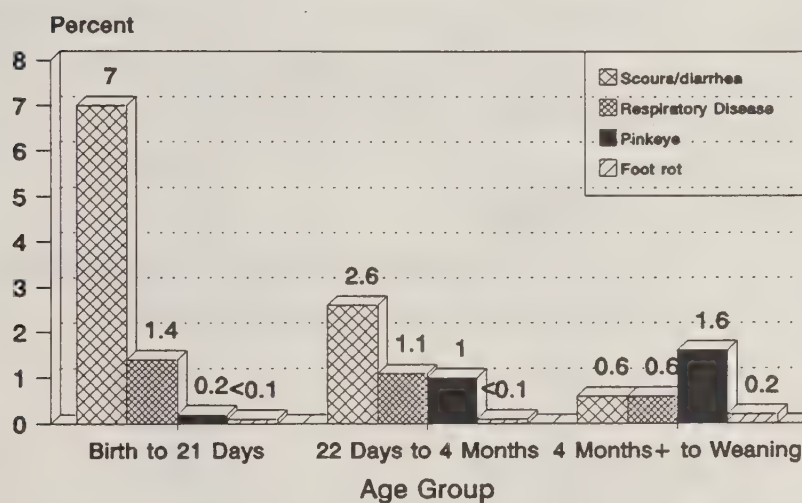
¹ Owner-attributed condition.

6. Death loss and health concerns (continued)

b. Percent of calves affected during the past 12 months by the following conditions¹:

<u>Condition</u>	<u>Birth to 21 Days</u>		<u>22 Days to 4 Months</u>		<u>Over 4 Months Until Weaning</u>	
	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
Scours/diarrhea	7.0	(±0.9)	2.6	(±0.5)	0.6	(±0.4)
Respiratory disease	1.4	(±0.3)	1.1	(±0.2)	0.6	(±0.1)
Pinkeye	0.2	(±0.1)	1.0	(±0.2)	1.6	(±0.3)
Foot rot	<0.1	(±<0.1)	<0.1	(±<0.1)	0.2	(±0.1)

**Percent of Calves Affected by Selected
Conditions During the Past 12 Months, 1993**

c. Operation average percent of cows and replacement heifers affected during the past 12 months by the following conditions¹:

<u>Condition</u>	<u>Cows</u>		<u>Replacement Heifers</u>	
	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
Respiratory disease	0.3	(±0.1)	0.3	(±0.1)
Diarrhea	0.4	(±0.2)	<0.1	(±<0.1)
Pinkeye	2.5	(±0.7)	1.6	(±0.8)
Foot rot	1.1	(±0.3)	0.1	(±<0.1)
Cancer eye	0.3	(±0.1)	<0.1	(±<0.1)
Mastitis	0.3	(±0.1)	<0.1	(±<0.1)
Retained placenta or uterine infection	0.5	(±0.2)	0.1	(±<0.1)
Abortion	0.3	(±0.2)	<0.1	(±<0.1)

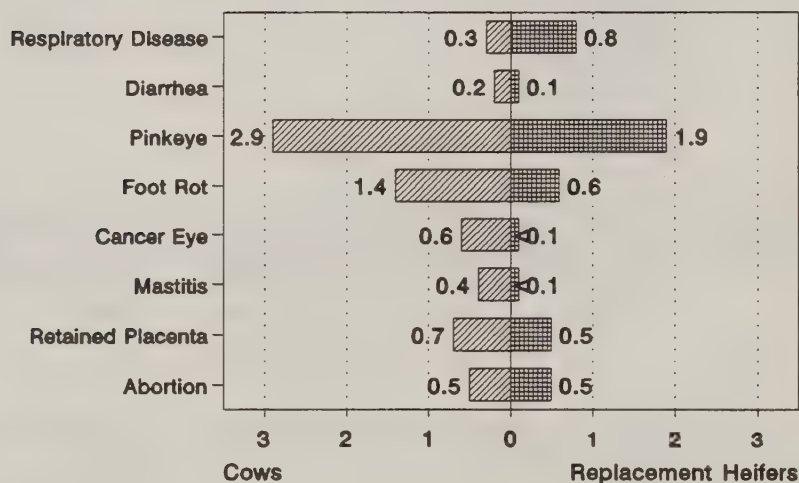
1 Owner-attributed condition.

6. Death loss and health concerns (continued)

d. Percent of cows and replacement heifers affected during the past 12 months by the following conditions¹:

<u>Condition</u>	<u>Cows</u>		<u>Replacement Heifers</u>	
	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
Respiratory disease	0.3	(± 0.1)	0.8	(± 0.3)
Diarrhea	0.2	(± 0.1)	0.1	(± 0.1)
Pinkeye	2.9	(± 1.0)	1.9	(± 0.6)
Foot rot	1.4	(± 0.3)	0.6	(± 0.2)
Cancer eye	0.6	(± 0.1)	<0.1	($\pm <0.1$)
Mastitis	0.4	(± 0.1)	<0.1	($\pm <0.1$)
Retained placenta or uterine infection	0.7	(± 0.1)	0.5	(± 0.1)
Abortion	0.5	(± 0.1)	0.5	(± 0.1)

**Percent of Cows and Replacement Heifers
Affected by Selected Conditions
During the Past 12 Months, 1993**



e. Calf death loss during 1993 (calves weighing less than 500 pounds died or lost) as a percent of calf crop:

<u>Percent of Calf Crop</u>	<u>Standard Error</u>
6.5	(± 0.4)

f. Cattle death during 1993 (cattle weighing 500 pounds or more died or lost as a percent of total inventory:

<u>Percent of Cattle Inventory</u>	<u>Standard Error</u>
1.1	(± 0.1)

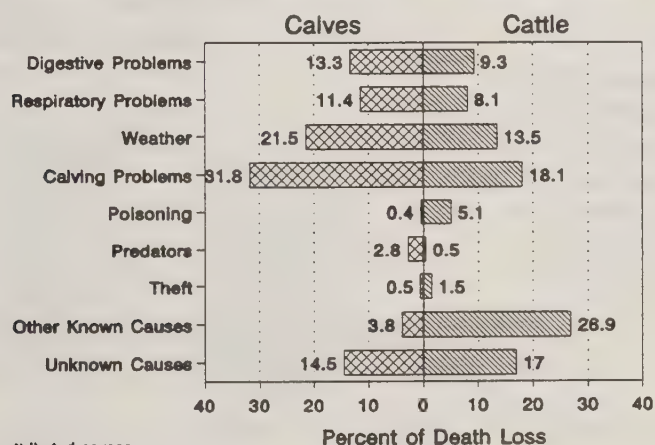
¹ Owner-attributed condition.

6. Death loss and health concerns (continued)

g. Percent of total cattle and calves that died or were lost during 1993 due to the following:

<u>Perceived Cause¹</u>	<u>Percent of Total Calf Death Loss</u>	<u>Standard Error</u>	<u>Percent of Total Cattle Death Loss</u>	<u>Standard Error</u>
Digestive problems (e.g., bloat, scours, parasites)	13.3	(±2.3)	9.3	(±2.1)
Respiratory problems (e.g., pneumonia, shipping fever)	11.4	(±2.1)	8.1	(±2.7)
Weather (e.g., lightning, drowning, chilling)	21.5	(±2.7)	13.5	(±3.8)
Calving problems	31.8	(±2.8)	18.1	(±3.0)
Poisoning (e.g., nitrates, fescue, noxious weeds, feed)	0.4	(±0.2)	5.1	(±2.0)
Predators	2.8	(±0.9)	0.5	(±0.3)
Theft	0.5	(±0.2)	1.5	(±0.8)
Other known causes (e.g., lameness)	3.8	(±0.8)	26.9	(±4.5)
Unknown causes	<u>14.5</u>	(±1.9)	<u>17.0</u>	(±3.1)
Total	100.0		100.0	

Percent of Total Cattle & Calves That Died or Were Lost Due to Perceived Causes* in 1993



h. Calf death loss by cause as a percent of calf crop:

<u>Perceived Cause¹</u>	<u>Percent of Calf Crop</u>	<u>Standard Error</u>
Digestive problems (e.g., bloat, scours, parasites)	0.9	(±0.2)
Respiratory problems (e.g., pneumonia, shipping fever)	0.7	(±0.2)
Weather (e.g., lightning, drowning, chilling)	1.4	(±0.2)
Calving problems	2.1	(±0.2)
Poisoning (e.g., nitrates, fescue, noxious weeds, feed)	<0.1	(±<0.1)
Predators	0.2	(±0.1)
Theft	<0.1	(±<0.1)
Other known causes (e.g., lameness)	0.3	(±0.1)
Unknown causes	0.9	(±0.1)

1 Owner-attributed cause of death.

7. Animal identification: hide branding

- a. Percent of operations hide branding unweaned calves:
- Percent
- Standard Error

16.0 (± 2.2)

- b. Number of unweaned calves on operations hide branding as a percent of unweaned calves on all beef operations: 38.4 (
- ± 3.6
-)

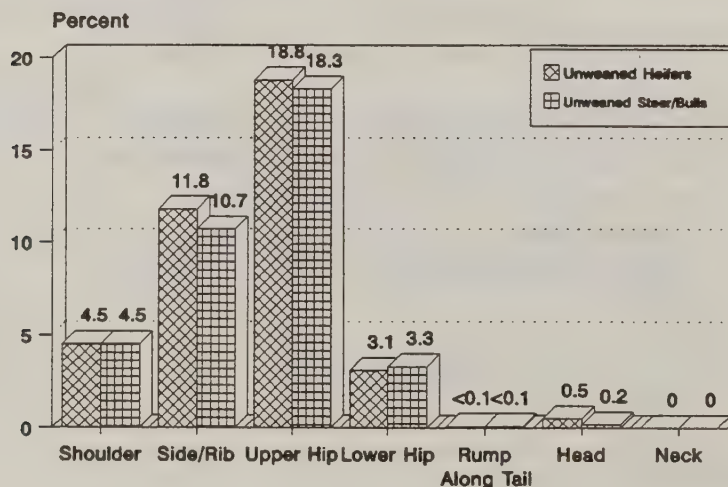
- c. For operations hide branding, percent of operations branding by site location and operation average percent of unweaned calves branded (for those operations branding at a specific site):

<u>Site</u> ¹	<u>Operations Branding</u>		<u>Percent of Calves Branded</u>			
	<u>Percent</u>	<u>Stand. Error</u>	<u>Unweaned Heifers</u>	<u>Stand. Error</u>	<u>Unweaned Steers/Bulls</u>	<u>Stand. Error</u>
Shoulder (site A)	5.9	(± 2.0)	86.7	(± 9.5)	86.5	(± 9.5)
Side/rib (site B)	29.0	(± 5.7)	86.9	(± 4.5)	81.8	(± 6.7)
Upper hip (site C)	63.9	(± 6.8)	87.2	(± 4.5)	83.7	(± 5.7)
Lower hip (site D)	9.7	(± 4.9)	82.6	(± 10.9)	36.6	(± 22.0)
Rump along tail (site E)	<0.1	($\pm <0.1$)	100.0	(± 0.0)	100.0	(± 0.0)
Head (site F)	0.2	(± 0.2)	100.0	(± 0.0)	2.7	(± 3.5)
Neck (site G)	0.0	(± 0.0)	0.0	(± 0.0)	0.0	(± 0.0)

- d. Percent of unweaned beef calf crop (heifers and steers) hide-branded by site location:

<u>Site</u> ¹	<u>Percent Branded</u>			
	<u>Unweaned Heifers</u>	<u>Standard Error</u>	<u>Unweaned Steers/Bulls</u>	<u>Standard Error</u>
Shoulder (site A)	4.5	(± 2.3)	4.5	(± 2.3)
Side/rib (site B)	11.8	(± 1.9)	10.7	(± 1.8)
Upper hip (site C)	18.8	(± 3.7)	18.3	(± 3.7)
Lower hip (site D)	3.1	(± 1.1)	3.3	(± 1.4)
Rump along tail (site E)	<0.1	($\pm <0.1$)	<0.1	($\pm <0.1$)
Head (site F)	0.5	(± 0.4)	0.2	(± 0.2)
Neck (site G)	0.0	(± 0.0)	0.0	(± 0.0)

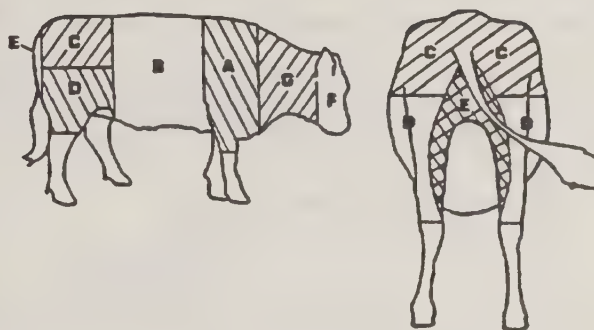
**Percent of Unweaned Beef Calf
Crop Hide-Branded by Site Location, 1993**



¹ See diagram of sites on page 13.

Injection and Branding Sites

- A: Shoulder
 B: Side/rib
 C: Upper hip
 D: Lower hip
 E: Rump along tail
 F: Head
 G: Neck

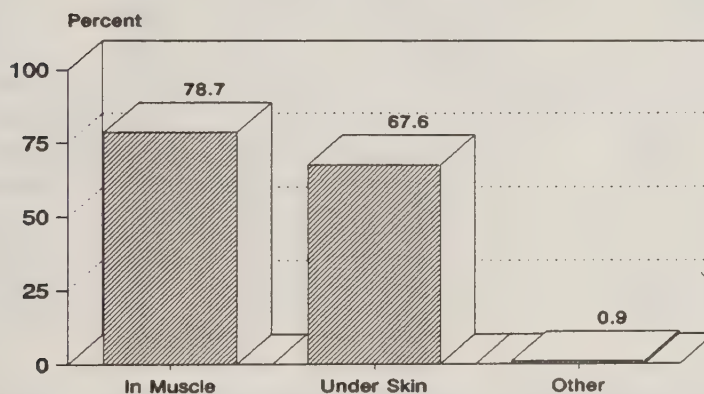


8. Injections (vaccine, antibiotic, injectable dewormer, injectable minerals or vitamins) given to beef cattle in the last 12 months by *owner(s)* or *employees*.

a. Percent of operations where producers give injections: Percent Standard Error
 72.9 (± 3.3)

b. Number of cows on operations where producers give injections as a percent of cows on all beef operations: 88.5 (± 1.8)

Percent of Operations Where Producers Give Injections Using Various Routes, 1993



- c. For operations where producers give injections, percent of operations giving one or more injection by each of the following routes:

Route	Percent	Standard Error
Muscle or intramuscular	78.7	(± 3.3)
Under the skin or subcutaneous	67.6	(± 4.5)
Other	0.9	(± 0.4)

- d. For operations where producers give injections, operation average percent of injections given by each route:

Route	Percent	Standard Error
Muscle or intramuscular	53.3	(± 3.5)
Under the skin or subcutaneous	46.5	(± 3.5)
Other	0.2	(± 0.1)
Total	100.0	

8. Injections by *owner(s) or employees* (continued)

- e. For operations using various injection routes, number of cows on those operations as a percent of cows on all beef operations:

<u>Route</u>	<u>Percent</u>	<u>Standard Error</u>
Muscle or intramuscular	72.6	(± 3.0)
Under the skin or subcutaneous	68.2	(± 3.8)
Other	1.6	(± 0.6)

- f. Percent of operations by main location of injection within each route:

<u>Injection Route:</u>	<u>Percent of Operations by Site Within Each Route</u>					
	<u>Muscle/Intramuscular</u>		<u>Skin/Subcutaneous</u>		<u>Other</u>	
<u>Site</u>	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
Shoulder (site A)	3.4	(± 1.1)	13.0	(± 4.0)	0.0	(± 0.0)
Side/rib (site B)	0.0	(± 0.0)	2.6	(± 1.3)	13.1	(± 12.5)
Upper hip (site C)	52.0	(± 5.4)	1.8	(± 0.8)	0.0	(± 0.0)
Lower hip (site D)	9.6	(± 3.2)	0.5	(± 0.4)	14.8	(± 13.8)
Rump along tail (site E)	14.7	(± 3.9)	0.2	(± 0.1)	0.0	(± 0.0)
Head (site F)	0.5	(± 0.5)	5.4	(± 3.3)	23.4	(± 13.0)
Neck (site G)	<u>19.8</u>	(± 3.8)	<u>76.5</u>	(± 4.9)	<u>48.7</u>	(± 20.8)
Total	100.0		100.0		100.0	

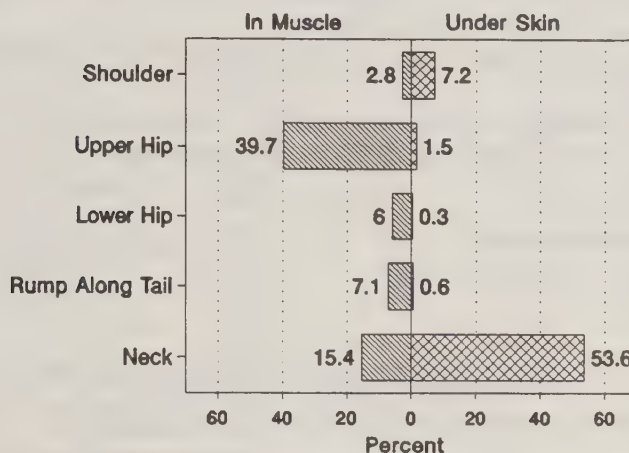
- g. Percent of all beef cows in herds by preferred injection site by route:

<u>Injection Route:</u>	<u>Percent of All Cows</u>					
	<u>Muscle/Intramuscular</u>		<u>Skin/Subcutaneous</u>		<u>Other</u>	
<u>Site</u> ¹	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>	<u>Percent</u>	<u>Standard Error</u>
Shoulder (site A)	2.8	(± 1.0)	7.2	(± 1.5)	0.0	(± 0.0)
Side/rib (site B)	0.0	(± 0.0)	2.0	(± 0.7)	0.2	(± 0.2)
Upper hip (site C)	39.7	(± 4.2)	1.5	(± 0.6)	0.0	(± 0.0)
Lower hip (site D)	6.0	(± 1.8)	0.3	(± 0.2)	0.2	(± 0.2)
Rump along tail (site E)	7.1	(± 1.7)	0.6	(± 0.5)	0.0	(± 0.0)
Head (site F)	1.5	(± 1.4)	3.1	(± 1.6)	0.4	(± 0.2)
Neck (site G)	15.4	(± 2.4)	53.6	(± 4.1)	0.8	(± 0.5)

¹ See diagram of sites on page 13.

8. Injections by owner(s) or employees (continued)

Percent of All Cows by Main Producer-Delivered Injection Location and Route*, 1993

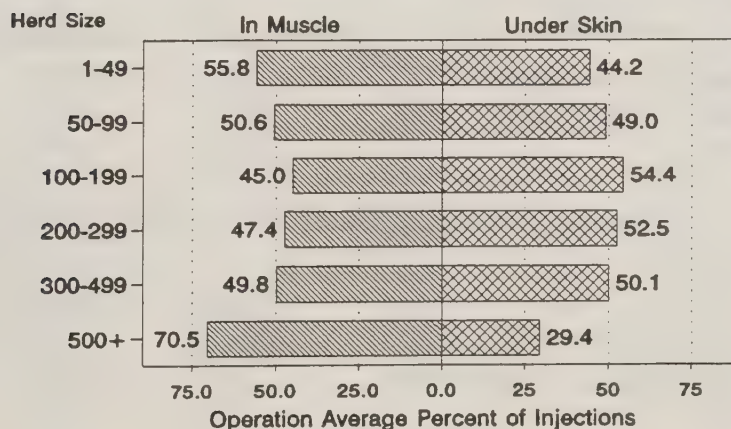


*Routes not shown are Side/Rib and Head.

h. For producers giving any injections, operation average percent of injections by route & herd size:

Beef Cow Herd Size	Percent of Injections						Total
	Muscle/Intramuscular		Skin/Subcutaneous		Other		
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error	
1-49	55.8	(± 4.9)	44.2	(± 4.9)	<0.1	(± <0.1)	100.0
50-99	50.6	(± 6.9)	49.0	(± 6.9)	0.4	(± 0.4)	100.0
100-199	45.0	(± 5.6)	54.4	(± 5.6)	0.6	(± 0.4)	100.0
200-299	47.4	(± 7.9)	52.5	(± 7.9)	0.1	(± <0.1)	100.0
300-499	49.8	(± 6.0)	50.1	(± 6.0)	0.1	(± 0.1)	100.0
500+	70.5	(± 10.8)	29.4	(± 10.8)	0.1	(± <0.1)	100.0
All	53.3	(± 3.5)	46.5	(± 3.5)	0.2	(± 0.1)	100.0

For Producers Giving Injections Percent of Injections Given by Route & Herd Size, 1993



9. Injections (vaccine, antibiotics, injectable dewormer, injectable minerals or vitamins) given to beef cattle on this farm in the last 12 months by a veterinarian

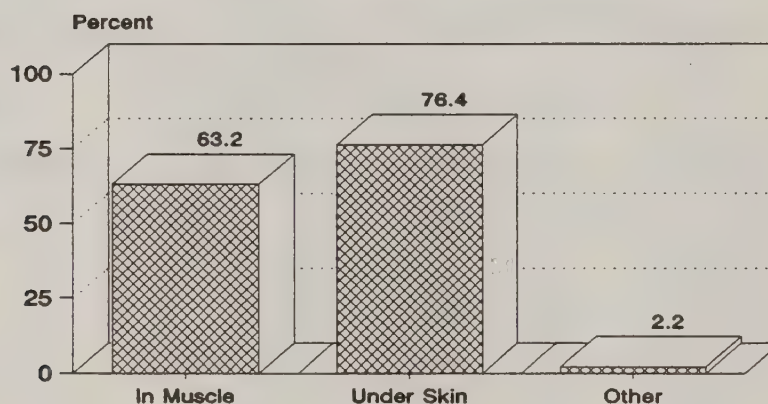
a. Percent of operations where veterinarians give injections: Percent Standard Error
49.9 (± 3.7)

b. Number of cows on operations where veterinarians give injections as a percent of cows on all beef operations: 62.9 (± 3.8)

c. For operations where injections are given by a veterinarian, percent of operations where one or more injections are given by each of the following routes:

<u>Route</u>	<u>Percent</u>	<u>Standard Error</u>
Muscle or intramuscular	63.2	(± 4.9)
Under the skin or subcutaneous	76.4	(± 4.5)
Other	2.2	(± 1.5)

**Percent of Operations Where Veterinarians
Use Various Injection Routes, 1993***



*According to producers.

d. For operations where injections are given by a veterinarian, operation average percent of injections given by route:

<u>Route</u>	<u>Percent</u>	<u>Standard Error</u>
Muscle or intramuscular	40.8	(± 4.2)
Under the skin or subcutaneous	57.5	(± 4.2)
Other	1.7	(± 1.5)
Total	100.0	

e. For operations using various injection routes, number of cows as a percent of cows on all beef operations:

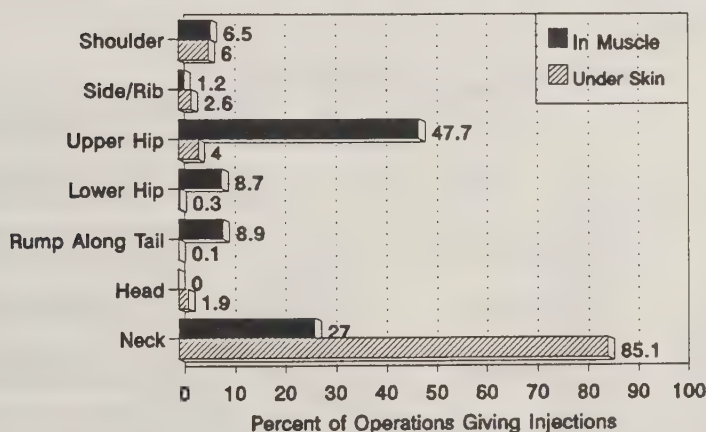
<u>Route</u>	<u>Percent</u>	<u>Standard Error</u>
Muscle or intramuscular	35.0	(± 3.5)
Under the skin or subcutaneous	51.5	(± 4.0)
Other	0.9	(± 0.4)

9. Injections by a veterinarian (continued)

f. Percent of operations by main location of injection within each route:

Injection Route: Site ¹	Percent of Operations by Site Within Each Route					
	Muscle/Intramuscular		Skin/Subcutaneous		Other	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
Shoulder (site A)	6.5	(± 1.9)	6.0	(± 1.9)	0.0	(± 0.0)
Side/rib (site B)	1.2	(± 0.8)	2.6	(± 1.3)	0.0	(± 0.0)
Upper hip (site C)	47.7	(± 6.4)	4.0	(± 2.3)	0.0	(± 0.0)
Lower hip (site D)	8.7	(± 3.2)	0.3	(± 0.3)	0.0	(± 0.0)
Rump along tail (site E)	8.9	(± 4.8)	0.1	(± 0.1)	0.0	(± 0.0)
Head (site F)	0.0	(± 0.0)	1.9	(± 1.1)	0.0	(± 0.0)
Neck (site G)	27.0	(± 5.7)	85.1	(± 3.4)	100.0	(± 0.0)
Total	100.0		100.0		100.0	

Preferred Sites by Route for Veterinarian-Delivered Injections*, 1993



*As identified by producers.

g. Percent of all beef cows in herds by preferred injection site by route:

Injection Route: Site ¹	Percent of Cows by Route					
	Muscle/Intramuscular		Skin/Subcutaneous		Other	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
Shoulder (site A)	3.3	(± 1.3)	3.7	(± 1.1)	0.0	(± 0.0)
Side/rib (site B)	0.4	(± 0.3)	1.0	(± 0.5)	0.0	(± 0.0)
Upper hip (site C)	16.7	(± 2.5)	1.0	(± 0.5)	0.0	(± 0.0)
Lower hip (site D)	2.3	(± 0.7)	0.4	(± 0.3)	0.0	(± 0.0)
Rump along tail (site E)	1.9	(± 0.9)	0.2	(± 0.2)	0.0	(± 0.0)
Head (site F)	0.0	(± 0.0)	0.8	(± 0.5)	0.0	(± 0.0)
Neck (site G)	10.2	(± 2.1)	44.4	(± 4.1)	0.9	(± 0.4)

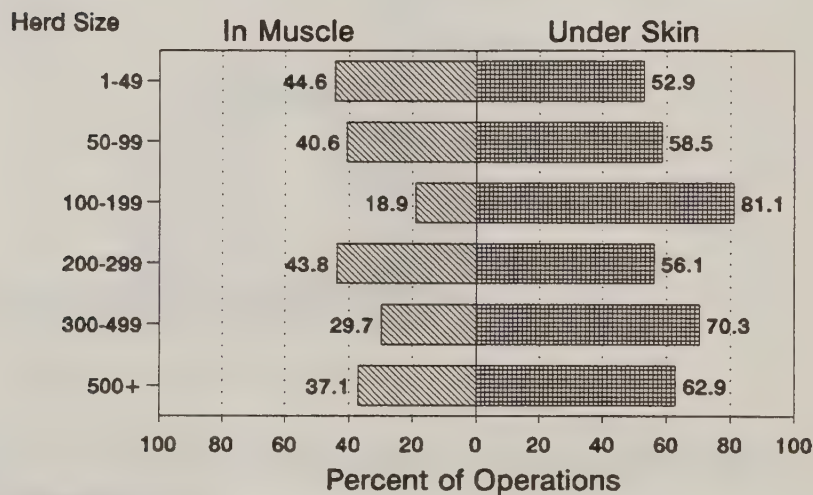
1 See diagram of sites on page 13.

9. Injections by a veterinarian (continued)

h. For operations with veterinarians giving any injections, operation average percent of injections by route and herd size:

Beef Cow Herd Size	Percent of Injections by Route						Total
	Muscle/Intramuscular		Skin/Subcutaneous		Other		
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error	
1-49	44.6	(± 5.6)	52.9	(± 5.6)	2.5	(± 2.4)	100.0
50-99	40.6	(± 7.5)	58.5	(± 7.5)	0.9	(± 0.6)	100.0
100-199	18.9	(± 6.8)	81.1	(± 6.8)	<0.1	(± <0.1)	100.0
200-299	43.8	(± 14.7)	56.1	(± 14.7)	0.1	(± 0.1)	100.0
300-499	29.7	(± 7.5)	70.3	(± 7.5)	0.0	(± 0.0)	100.0
500+	37.1	(± 11.6)	62.9	(± 11.6)	<0.1	(± <0.1)	100.0
All	40.8	(± 4.2)	57.5	(± 4.2)	1.7	(± 1.5)	100.0

For Operations Where Veterinarians Give Injections % Given by Route & Herd Size*, 1993

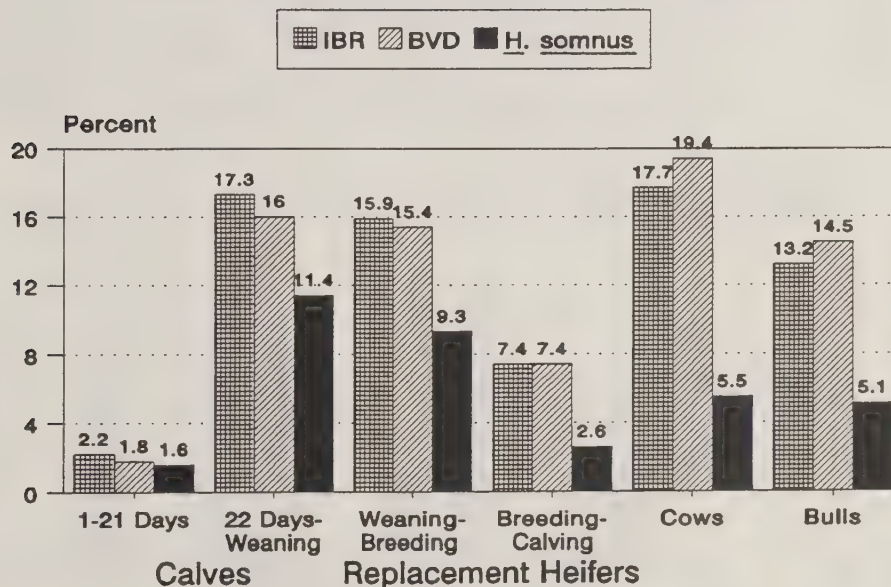


10. Vaccine usage

a. Percent of operations using the following vaccines in the last 12 months:

Vaccine	Percent of Operations					
	Calves		Replacement Heifers		Cows	Bulls
	1 to 21	22 Days to	Weaning	After Breed.		
Days	Weaning	Through	Through			
			Breeding	Calving		
General:						
IBR (rednose, infectious						
bovine rhinotracheitis)	2.2	17.3	15.9	7.4	17.7	13.2
Standard Error	(±1.1)	(±2.4)	(±2.7)	(±2.0)	(±2.6)	(±2.5)
BVD (bovine viral diarrhea)	1.8	16.0	15.4	7.4	19.4	14.5
Standard Error	(±1.1)	(±2.3)	(±2.7)	(±2.0)	(±2.9)	(±2.8)
<u>Hemophilus somnus</u>	1.6	11.4	9.3	2.6	5.5	5.1
Standard Error	(±1.0)	(±2.1)	(±2.2)	(±1.1)	(±1.9)	(±1.9)

Percent of Operations Using General Vaccines by Animal Class in 1993







Respiratory:

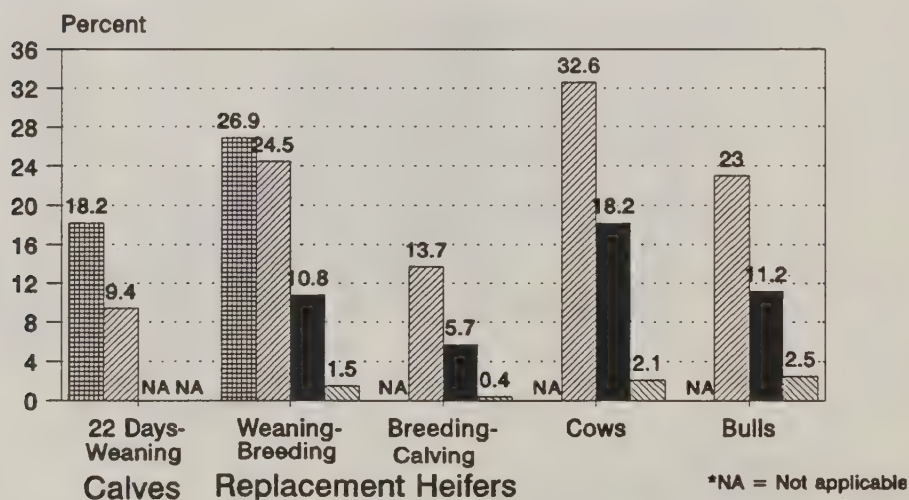
PI3 (parainfluenza virus)	2.1	15.9	13.7	6.7	15.7	11.3
Standard Error	(±1.1)	(±2.3)	(±2.6)	(±1.9)	(±2.6)	(±2.5)
BRSV (bovine respiratory syncytial virus)	0.7	12.6	10.7	4.8	12.8	8.8
Standard Error	(±0.5)	(±2.1)	(±2.3)	(±1.5)	(±2.5)	(±2.3)
Pasteurella	0.5	8.2	8.2	2.1	5.3	5.3
Standard Error	(±0.4)	(±1.9)	(±2.2)	(±1.0)	(±1.9)	(±1.9)

10. Vaccine usage (continued)

Vaccine	Percent of Operations					
	Calves		Replacement Heifers			
	1 to 21 Days	22 Days to Weaning	Weaning Through Breeding	After Breed. Through Calving	Cows	Bulls
Reproductive:						
<u>Brucella abortus</u>	NA ¹	18.2	26.9	NA ¹	NA ¹	NA ¹
Standard Error	NA ¹	(±2.9)	(±3.3)	NA ¹	NA ¹	NA ¹
<u>Leptospira</u>	NA ¹	9.4	24.5	13.7	32.6	23.0
Standard Error	NA ¹	(±2.6)	(±3.4)	(±2.6)	(±3.5)	(±3.2)
<u>Campylobacter (vibrio)</u>	NA ¹	NA ¹	10.8	5.7	18.2	11.2
Standard Error	NA ¹	NA ¹	(±2.0)	(±1.4)	(±2.7)	(±2.3)
<u>Trichomoniasis</u>	NA ¹	NA ¹	1.5	0.4	2.1	2.5
Standard Error	NA ¹	NA ¹	(±1.2)	(±0.2)	(±1.2)	(±1.4)

Percent of Operations Using the Following Vaccines by Animal Class in 1993, Reproductive System

 Brucella abortus
 Leptospira
 Campylobacter
 Trichomoniasis

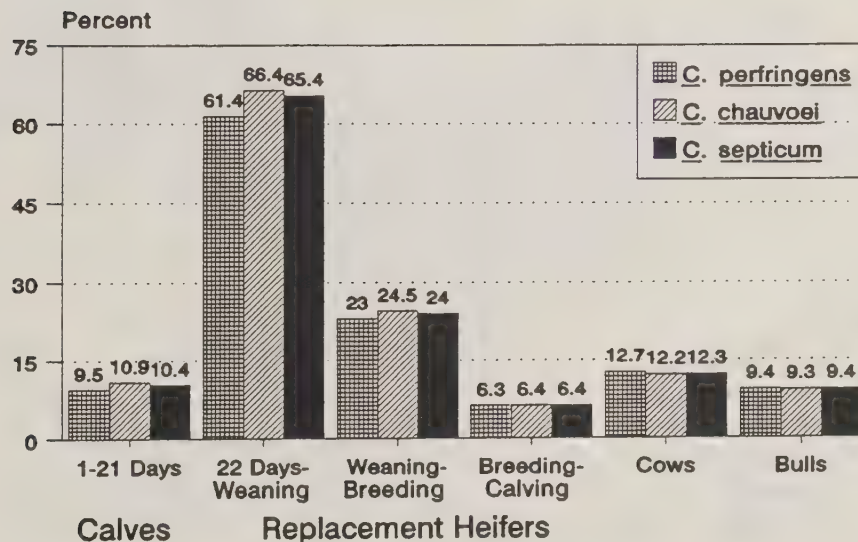


1 NA: Not applicable.

10. Vaccine usage (continued)

Vaccine	Percent of Operations					
	Calves		Replacement Heifers		Cows	Bulls
	1 to 21	22 Days to	Weaning	After Breed.		
Days	Weaning	Through	Through			
			Breeding	Calving		
Clostridial:						
<u>C. perfringens</u> C and D						
(enterotoxemia, overeating)	9.5	61.4	23.0	6.3	12.7	9.4
Standard Error	(±2.1)	(±3.6)	(±3.3)	(±2.0)	(±2.6)	(±2.4)
<u>C. chauvoei</u> (blackleg)	10.9	66.4	24.5	6.4	12.2	9.3
Standard Error	(±2.3)	(±3.7)	(±3.4)	(±2.0)	(±2.6)	(±2.4)
<u>C. septicum</u> (malignant edema)	10.4	65.4	24.0	6.4	12.3	9.4
Standard Error	(±2.3)	(±3.7)	(±3.3)	(±2.0)	(±2.6)	(±2.4)
<u>C. sordeli</u>	9.2	57.9	21.8	5.9	11.2	9.1
Standard Error	(±2.0)	(±3.6)	(±3.2)	(±2.0)	(±2.5)	(±2.4)
<u>C. hemolyticum</u> (redwater)	7.2	45.6	17.3	3.6	7.4	6.7
Standard Error	(±1.8)	(±3.8)	(±3.0)	(±1.5)	(±2.2)	(±2.2)
<u>C. novyi</u> (black disease)	9.2	60.6	21.5	5.8	10.7	9.0
Standard Error	(±2.0)	(±3.6)	(±3.2)	(±2.0)	(±2.4)	(±2.4)
<u>C. tetani</u> (tetanus)	6.0	36.2	13.8	3.3	6.5	5.8
Standard Error	(±1.8)	(±3.8)	(±2.8)	(±1.5)	(±2.1)	(±2.1)

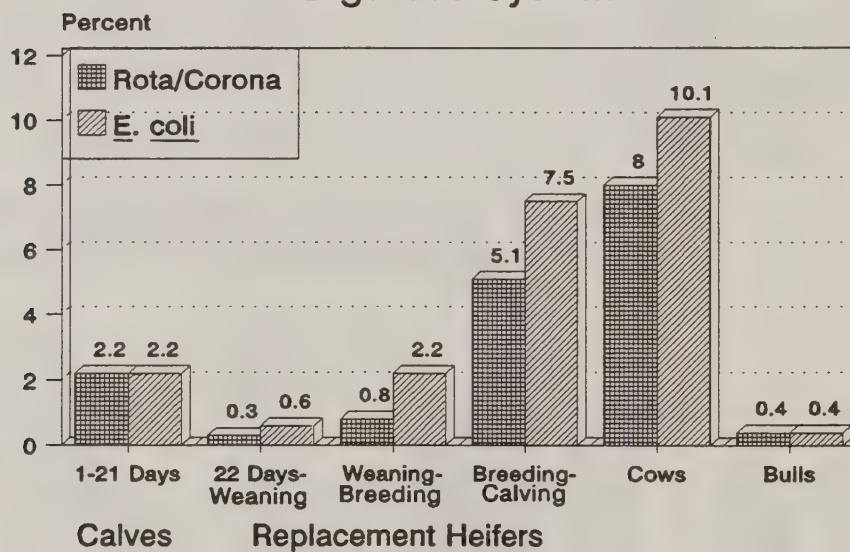
Percent of Operations Using the Following Vaccines by Animal Class in 1993, Clostridial



10. Vaccine usage (continued)

Vaccine	Percent of Operations					
	Calves		Replacement Heifers		Cows	Bulls
	1 to 21 Days	22 Days to Weaning	Weaning Through Breeding	After Breed. Through Calving		
Digestive:						
Rota/corona	2.2	0.3	0.8	5.1	8.0	0.4
Standard Error	(±1.5)	(±0.2)	(±0.8)	(±1.6)	(±2.0)	(±0.3)
<i>E. coli</i>	2.2	0.6	2.2	7.5	10.1	0.4
Standard Error	(±1.5)	(±0.4)	(±1.4)	(±2.2)	(±2.3)	(±0.3)
Salmonella	<0.1	0.3	0.2	1.7	1.7	0.0
Standard Error	(±<0.1)	(±0.2)	(±0.2)	(±1.1)	(±1.1)	(±0.0)

Percent of Operations Using the
Following Vaccines by Animal Class in 1993
Digestive System



Other:

Anaplasmosis	NA ¹	0.0	0.2	0.1	0.3	0.3
Standard Error	NA ¹	(±0.0)	(±0.1)	(±0.1)	(±0.2)	(±0.1)
<i>Moraxella bovis</i> (pinkeye)	NA ¹	9.0	5.5	3.4	8.6	6.2
Standard Error	NA ¹	(±2.3)	(±2.0)	(±1.7)	(±2.4)	(±2.2)
Wart virus	0.0	0.0	0.7	0.1	0.0	0.0
Standard Error	(±0.0)	(±0.0)	(±0.4)	(±0.1)	(±0.0)	(±0.0)

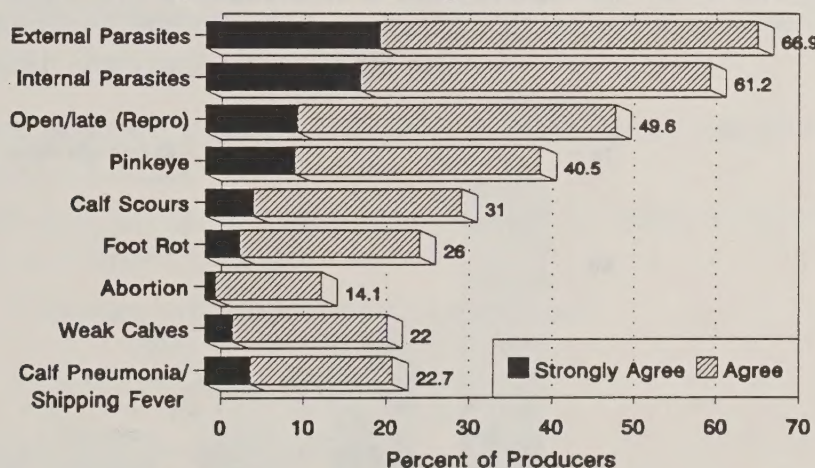
1 NA: Not applicable.

11. Producer opinions on beef health

a. Opinions on health conditions that had a significant economic impact on the cow/calf operation in the last 12 months. Considerations included the cost of prevention, cost of treatment, and lost production:

Conditions	Percent of Operations										Total
	Strongly Agree	Stand. Error	Agree	Stand. Error	Disagree	Stand. Error	Strongly Disagree	Stand. Error	No Opinion	Stand. Error	
Parasites											
Internal	18.7	(±3.0)	42.5	(±3.9)	26.6	(±3.7)	8.0	(±1.9)	4.2	(±1.5)	100.0
External	21.1	(±3.5)	45.8	(±4.0)	22.7	(±3.8)	5.6	(±1.6)	4.8	(±1.8)	100.0
Digestive											
Calf scours	5.8	(±1.3)	25.2	(±3.6)	45.8	(±4.0)	16.0	(±2.8)	7.2	(±2.2)	100.0
Bloat	2.3	(±1.0)	4.4	(±1.2)	53.4	(±4.2)	25.9	(±3.5)	14.0	(±3.0)	100.0
Ulcers (abomasal/ stomach)	0.4	(±0.2)	2.5	(±1.3)	47.6	(±4.1)	26.6	(±3.4)	22.9	(±3.5)	100.0
Coccidiosis	3.2	(±1.2)	9.7	(±2.6)	44.0	(±4.1)	25.2	(±3.5)	17.9	(±3.0)	100.0
Reproductive											
Open/late	11.1	(±2.5)	38.5	(±3.9)	31.3	(±3.8)	10.0	(±2.3)	9.1	(±2.5)	100.0
Abortion	1.2	(±0.4)	12.9	(±2.8)	54.5	(±4.1)	20.0	(±3.1)	11.4	(±2.7)	100.0
Weak calves	3.3	(±1.2)	18.7	(±3.0)	49.6	(±4.1)	17.8	(±3.1)	10.6	(±2.6)	100.0
Retained placenta/uterine infection	0.4	(±0.2)	14.7	(±2.7)	53.3	(±3.9)	19.6	(±3.2)	12.0	(±2.7)	100.0
Respiratory											
Calf pneumonia/shipping fever	5.5	(±1.4)	17.2	(±2.8)	47.1	(±4.0)	20.3	(±3.3)	9.9	(±2.6)	100.0
Cow asthma	<0.1	(±<0.1)	4.0	(±1.3)	48.1	(±4.0)	24.2	(±3.3)	23.7	(±3.2)	100.0

1993 Top Conditions that Producers Agreed Had a Significant Economic Impact on the Cow/Calf Operation During the Past 12 Months*



*Considerations included: cost of prevention, cost of treatment, and lost production.

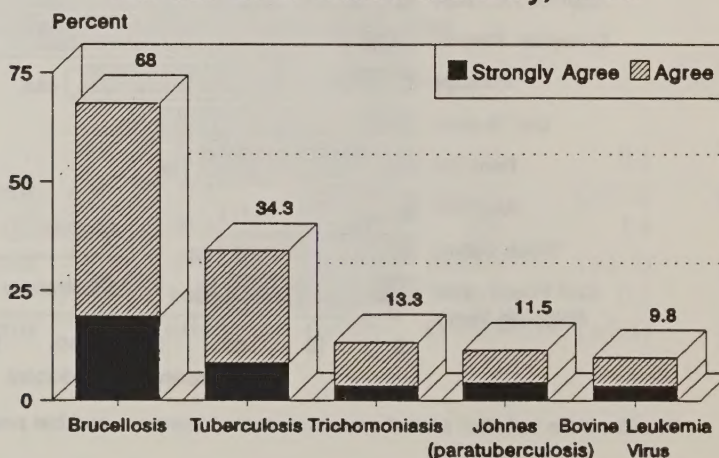
11. Producer opinions on beef health (continued)

Conditions	Percent of Operations										Total
	Strongly Agree	Stand. Error	Agree	Stand. Error	Disagree	Stand. Error	Strongly Disagree	Stand. Error	No Opinion	Stand. Error	
Plant-related											
Fescue	3.2	(±1.3)	7.2	(±1.9)	49.2	(±3.9)	21.0	(±3.1)	19.4	(±3.3)	100.0
Nitrate	0.8	(±0.6)	1.9	(±0.7)	47.4	(±4.1)	28.6	(±3.7)	21.3	(±3.3)	100.0
Larkspur	0.6	(±0.5)	0.3	(±0.1)	43.0	(±4.1)	26.9	(±3.6)	29.2	(±3.8)	100.0
Other plant-related problems	1.3	(±0.6)	3.6	(±1.5)	40.7	(±3.9)	25.6	(±3.6)	28.8	(±3.7)	100.0
Other											
Pinkeye	10.8	(±2.5)	29.7	(±3.7)	37.4	(±4.1)	13.0	(±2.3)	9.1	(±2.5)	100.0
Foot rot	4.2	(±1.6)	21.8	(±3.1)	44.2	(±4.1)	18.8	(±3.1)	11.0	(±2.7)	100.0
White muscle disease (selenium/vitamin E deficiency)	1.5	(±0.7)	3.8	(±1.2)	45.8	(±4.1)	23.1	(±3.4)	25.8	(±3.5)	100.0
Copper deficiency	1.2	(±0.6)	5.0	(±1.6)	43.6	(±4.1)	21.0	(±3.2)	29.2	(±3.7)	100.0
Anaplasmosis	0.9	(±0.6)	2.8	(±1.2)	46.0	(±3.8)	22.6	(±2.9)	27.7	(±3.4)	100.0
Grass tetany	3.7	(±1.1)	12.7	(±2.6)	46.6	(±4.0)	20.2	(±3.3)	16.8	(±3.1)	100.0

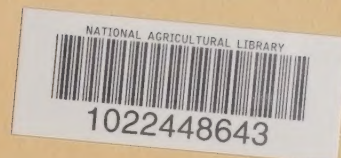
b. Opinions on the following conditions that are significant problems for the beef cattle industry:

Conditions	Percent of Operations										Total
	Strongly Agree	Stand. Error	Agree	Stand. Error	Disagree	Stand. Error	Strongly Disagree	Stand. Error	No Opinion	Stand. Error	
Tuberculosis	8.6	(±1.8)	25.7	(±3.4)	26.4	(±3.5)	5.8	(±1.5)	33.5	(±3.8)	100.0
Brucellosis	19.2	(±2.9)	48.8	(±4.2)	14.5	(±2.5)	2.8	(±0.9)	14.7	(±3.0)	100.0
Trichomoniasis	3.4	(±1.2)	9.9	(±2.1)	19.1	(±3.1)	6.4	(±1.7)	61.2	(±3.5)	100.0
Johnes disease (paratuberculosis)	4.1	(±1.9)	7.4	(±1.8)	15.0	(±2.8)	7.9	(±2.0)	65.6	(±3.6)	100.0
Bovine leukemia virus infection	3.3	(±1.6)	6.5	(±1.7)	15.9	(±2.8)	6.4	(±1.9)	67.9	(±3.5)	100.0

% Producers That Agreed the Following Conditions Are Significant Problems for the Beef Cattle Industry, 1993



Beef materials available from NAHMS



Beef

CHAPA

Cow/Calf Health & Productivity Audit

- **Part I: Beef Cow/Calf Herd Practices in the United States, 8/93** (24-page tabular summary with graphic presentations of data collected on health, productivity, and management practices from producers in 48 states through the Beef Cow/Calf Health and Productivity Audit [CHAPA])
- **Part II: Beef Cow/Calf Reproductive & Nutritional Management Practices/ Part III: Beef Cow/Calf Health & Health Management, 1/94** (46-page tabular summary of CHAPA results with graphic presentations)
- **Part IV: Beef Cow/Calf Breeding Management, 3/94** (12-page tabular summary of CHAPA results with graphic presentations)
- **Fact Sheets, 8/93-3/94** (discussions and graphic presentations of the CHAPA results) Topics include: Cryptosporidium/Giardia, animal identification, branding practices, injection sites, opportunities to improve calving management, use of reproductive management technology, weak calf syndrome, and information sources.



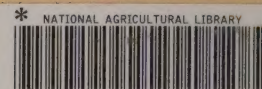
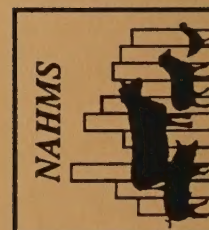
National Animal Health Monitoring System
1994-1995 study of feedlots in 13 states
targeting information on beef quality,
food safety, environmental management,
and general animal management.

- **COFE Producer brochure, 6/94** (1-page description of the study and benefits to the feedlot industry)
- If you would like to receive results of this study and other information relative to the feedlot industry as it becomes available, contact:

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